UNIVERSITY OF FLORIDA
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INTERSTATE COMMERCE COMMISSION

BUREAU OF TRANSPORT ECONOMICS AND STATISTICS

F O R M U L A

FOR USE IN

DETERMINING RAIL TERMINAL FREIGHT SERVICE COSTS

Statement No. 430

E X P L A N A T O R Y N O T E

This formula was developed by the Cost Section of the Bureau of Transport Economics and Statistics for the determination of rail terminal costs. The procedure outlined in this switching formula is based upon a study of the Commission's decisions in Switching Rates in Chicago Switching District, 177 I.C.C. 669; Des Moines Union Railway Switching, 231 I.C.C. 631; Switching Charges at Jamestown, N. Y., 238 I.C.C. 383; Sioux City Terminal Railway Switching, 241 I.C.C. 53, 623; and Switching at Richmond, Va., 245 I.C.C. 293. Consideration was also given to the proposals in the Lorenz-Elmore formula, the Coverston-Saur formula, and the various criticisms made of these formulas. Detailed scrutiny has been made of the procedure followed by the carriers in several important switching cases.

While this formula has been developed to provide the maximum degree of refinement that may be required in some instances, it has sufficient flexibility to permit of its application with varying degrees of refinement. The formula contains not only the needed accounting and statistical forms, but also a set of suggested field forms to be used in recording the yard-performance data. For purposes of illustration, there is included a hypothetical terminal layout with a suggested procedure for a breakdown of the operations into zones and switching elements.

The purpose of distributing the formula is to make available to interested parties the results of the research and experience of the Cost Section of the Bureau of Transport Economics and Statistics in the field of terminal cost finding up to the present time. The formula is subject to such change as may be found desirable as a result of future study and research. It is believed that its distribution will assist in an understanding of the general nature and procedure of terminal cost finding and thus not only encourage improvements in the technique of cost finding but also facilitate the proper and intelligent use of the cost data in proceedings before the Commission.

Other formulas dealing with rail (line haul), truck, steamship, and barge transportation, which have been developed by the Cost Section and have been introduced in proceedings before the Commission, are not ready for distribution.

This formula has not been considered or adopted by the Interstate Commerce Commission.

Washington, D. C.
January, 1943

INTERSTATE COMMERCE COMMISSION
Bureau of Transport Economics and Statistics
Washington, D. C.

September, 1946

Correction to Rail Terminal Form F, 5 - 42.

The following corrections should be made in the formula in accordance with the Commission's decision of August 7, 1946 in I & S Docket No. 5324, Switching Charges of Buffalo Creek R.R. at Buffalo, N. Y., sheet 10 (mimeograph copy), second paragraph.

1. Footnote 8, line (b), col. (2) for Schedule B, sheet 1 should read:

   A.R. Schedule 320, col. (b), total M. of W. & S. expenses minus sum of accts. 201, 274-277, inclusive.

2. Footnote 19, line (b), col. (2) for Schedule B, sheet 1 should read:

   A.R. Schedule 320, col. (e), total Transportation — Rail line expenses minus the sum of accts. 371, 410, 411, 414 and 420.

INTERSTATE COMMERCE COMMISSION
Bureau of Accounts and Cost Finding
Washington 25, D. C.

February 18, 1949

CORRECTIONS TO RAIL TERMINAL FORM F, 5-42

The following corrections should be made in the formula in accordance with the Commission's decision of August 7, 1946, in I & S Docket No. 5324, Switching Charges of Buffalo Creek R.R. at Buffalo, N.Y., sheet 10 (Mimeograph copy), second paragraph:

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   A.R. Schedule 320, col. (b), total M. of W. & S. expenses minus sum of accts. 201, 274-277, inclusive.

2. Footnote 19, line (b), col. (2), for Schedule B, sheet 1 should read:

   A.R. Schedule 320, col. (e), total Transportation -- Rail line Expenses minus the sum of accts. 371, 410, 411, 414, and 420.

3. See Schedule C, sheet 1, footnote 19, 5th line, and insert "sum of" before the word "system," and add to the last line after the word "inclusive," "and accounts 392 to 402, inclusive."

GJP:MJM

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GENERAL OUTLINE OF PROCEDURE

These forms are designed for the computation of switching service costs, the distribution of the expenses, and the return on value, being based upon the relative use which the traffic makes of the carrier's transportation facilities. The procedure is as follows:

1. Unit costs are determined for the following service units:
   - A. Switching service:
     - (1) Cars handled by zones
     - (2) Cars handled by elements of switching
     - (3) Car-miles
     - (4) Car-days
     - (5) Cars loaded and unloaded
   - B. Station service:
     - (1) Consignments
2. The number of service units required in the handling of each class of switching under study is computed from switching studies for test period.
3. The number of service units for each class of switching is multiplied by the applicable unit cost and the resulting expenses aggregated and reduced to a cost per car.

GENERAL INSTRUCTIONS - (INTRODUCTORY REMARKS)

1. (a) This terminal cost formula, designated as Rail Terminal Form F, is one of several rail cost formulas developed by the Bureau of Transport Economics and Statistics of the Interstate Commerce Commission for use in different types of cases. Form F provides for several levels of cost based upon the distribution of the carrier's operating expenses, rents, taxes, and return on value to the movement of the traffic under study, giving consideration to all or part of the following factors:

   (1) Number of yard locomotive minutes required to handle each class of switching under study
   (2) The extent and relative use of the trackage required to handle each class of switching under study
   (3) The number of car-miles operated in rendering each class of switching under study
   (4) The number of active car-days consumed in handling each class of switching under study
   (5) Class of locomotives used in the handling of each class of switching
   (6) Special services received, if any.

   This formula is constructed to provide the maximum degree of refinement in terminal switching studies. It may be applied, however, with various degrees of refinement depending upon the needs of each particular case.

   (b) The formula provides for the computation of the passenger deficit as an element for consideration. This deficit represents that portion of the total operating expenses, rents, and taxes (with and without an allowance for return) which was assigned to the passenger service and which the passenger revenues during the annual period covered by the study were unable to meet. The amount of the deficit apportioned to any given freight traffic is based upon the freight service expenses assigned and apportioned to such freight traffic, i.e., the distribution is based on the relative use which such freight traffic itself makes of the carrier's transportation facilities. No consideration is here given to the commodity's relative ability to pay. This formula may be used with or without consideration of the passenger deficit, depending upon the nature of the case.

   (c) The respective levels of cost developed by the formula (Summary Schedule, sheet 1, columns (5) to (17), serve to indicate that average revenue which each carload (100 pounds of freight) would have had to earn during the period studied (considering the number of yard locomotive minutes required, extent of trackage used, etc.) to cover the elements of cost indicated.

   (d) This formula does not reflect those rate-making factors which occasion differences in rates which cannot be justified under a strict adherence to a cost of service principle. Such factors include ability to pay, value of service, value of commodity, competitive relationships, degree of manufacture, etc.

GENERAL INSTRUCTIONS - (INTRODUCTORY REMARKS) - Continued

2. The steps in filling out this formula are as follows:

(a) Insert in Summary Schedule, sheet 1, columns (1) to (6), the data for those classes of switching the costs for which are to be ascertained. The filling out of columns (7) to (17) must await the completion of the study.

(b) Select representative test period for switching study based on analysis of yard performance by months for several years. Select that period of the year in which the total cars handled per locomotive hour and total number of locomotive hours operated most nearly represent the annual average for the preceding three years. Select a test period based on even multiples of 7 days, i.e., 7-day period, 14-day period, etc.

(c) From an analysis of terminal operations establish the switching elements or zones necessary to reflect the costs chargeable to each class of switching under study. Where the zones are first established, the selection of the elements should coincide in so far as possible with the geographical limits of the zones. Where the zones are first selected, the elements should coincide in so far as possible with the zones. Normally there will be one element established for each zone except in transfer service, where separate elements are set up for each direction of movement. The elements will not exactly coincide with the zones for the following reasons: Elements of switching involving transfer between yards will begin and end at a point within the yard while the zone boundaries will begin and end at the boundaries of the yard. Also elements of switching will include locomotive time on industrial tracks owned by shippers while the zones are limited to the trackage or other facilities actually owned by the carrier. However, while the boundaries of the zones and elements are not identical, a count of the switching elements provides all the information needed for the count of the zones. For illustration of the selection of switching elements and zones see sample copy of Form 1 and map attached thereto.

(d) Fill out Form 1 providing a complete description of the following:

(1) Terminal operations, ownership of facilities, identification of joint facilities
(2) Map
(3) A list and identification of each zone
(4) A list and identification of each switching element

(e) Conduct a test study for the representative period selected, using Forms 2, 3, and 8, in addition to what other forms may be found necessary (see requirements for car count of Form 4, footnote 1).

(f) Fill out Forms 4, 5, 6, and 7 from analysis of data collected during test period.

(g) Fill out Schedules A, B, C, D, E, F, and G from the accounting and statistical sources indicated. See Special Instructions, if any, appearing on Introductory Page No. 3. Carry forward the costs for station services, special services, switching services, and an allowance for nonrevenue traffic from Schedules D, E, F, and G, respectively, to the Summary Schedule, sheet 2. These costs are there totaled for each class of switching and an allowance added for abnormal expenses and passenger deficit (if pertinent to study). These totals shall then be carried forward to the Summary Schedule, sheet 1, columns (8) to (17). All references to Annual Report shown in this formula are to Annual Report Form A, Class I Carriers. If the formula is applied by switching and terminal companies, the tenor of the instructions given the Class I companies should be followed.

3. Where separate classes of locomotives are regularly assigned to different elements of switching service, such as the assignment of a heavy class of power to classification work and transfer work, and a lighter class of power to industrial switching, the unit cost should be developed separately for each such class of power (see Schedule A, sheet 1, lines 28-32, and Schedule C, columns (6)-(9)). On the other hand, if the several classes of power operated in the terminal are used interchangeably in all elements of switching service, develop the weighted average cost per locomotive hour.

4. Apportionment factors shown throughout the formula should be used only in the absence of data permitting direct assignment.

5. In a terminal cost study the expenses should correspond with the service units, i.e., locomotive hours, cars handled, etc. Thus, if a joint facility operation is involved, the unit costs should be computed by dividing the total service units for the entire operation into the total expenses before deducting from such expenses the amounts billed others. If, under certain circumstances, only respondent's portion of the expenses for operating the joint facility are carried into the cost study, such expenses should be distributed only over respondent's service units. The method of treatment followed must be based upon an analysis of the nature of the joint facility operation, the nature of the contract between participating carriers, and the intercorporate relationship, if any, between the carriers.

6. It is desirable that adjustments for any abnormal expenses of the nature outlined in the Summary Schedule, sheet 1, item 4, be incorporated in the cost study by computing the effect of such adjustment upon each primary account and inserting the adjusted expense data directly in the applicable schedules. Where available data do not permit of this treatment, such adjustments shall be made as provided for in Summary Schedule, sheet 2 (see footnote 10).

7. When the formula is applied under instructions from the Commission, see Introductory Page No. 3 for special instructions concerning length of test period, levels of cost to be computed, rate of return to be used, source of valuation data, etc.

8. For definitions of switching and its various classes and elements, see Sioux City Terminal Railway Switching, 241 I.C.C. 53, 90.

9. This formula provides for the computation of the costs for each class of switching for which costs are to be determined. The classes of switching thus established will depend on the nature of the terminal switching study being made, such as carrier terminal switching, connection terminal switching, intermediate switching, intraterminal switching, interterminal switching, interchange switching, intra- and intertrain switching. Certain of these classes of switching may be further separated as to traffic handled for each of respondent's connecting lines, as to industries or by groups of industries. The cost for each class of switching may be computed on the basis of loaded cars handled (carrier terminal switching, connection terminal switching, intraterminal switching, and interterminal switching) or on the basis of the total cars handled, loaded or empty (interchange switching, intermediate switching, intratrain or intertrain switching).

10. The expense for switching of rip tracks, material storehouses, and shops, is an expense chargeable to maintenance of equipment. Where locomotives are assigned exclusively to this service, the expense is chargeable to clearing accounts, "Shop expenses", and "Material store expenses", for subsequent redistribution through maintenance of equipment and other primary accounts (see Uniform System of Accounts for Steam Railroads). Incidental switching at shops and material yards not charged to such clearing accounts should not be charged to the traffic handled at the particular terminal under study. Such cost, if treated, should be accumulated through special study at all terminals and distributed through the clearing accounts as indicated above. However, the cost of handling nonrevenue traffic consumed at or chargeable to the terminal under study is charged to the handling of revenue traffic at such terminal (see Schedule G).

11. Where the terminal formula is used in procedings before the Interstate Commerce Commission, the data introduced in evidence should include complete copies of Schedules A to G, and Forms 1 (including map of terminal), 5, 6, 7, and 8. There should also be introduced sample copies (filled out from actual data) of Forms 2, 3, and 4.

12. Questions and problems concerning the interpretation or application of this formula should be referred to the Bureau of Transport Economics and Statistics of the Interstate Commerce Commission.

Source of Factors Used in the Formula

Rail Terminal Form F, 5-42

Item (1)	Reference (2)	Source (3)
1. Distribution of freight-train car repairs on the basis of mileage (70%), time (25%), and loading and unloading (5%)	Schedule A, sheet 1, line 6	Based on study by Engineering Section, Bureau of Valuation. The study developed the following breakdown for system freight-train car expenses: (a) Mileage portion, 70%; (b) loading and unloading portion (repairs), 5%; (c) total "use" portion, (a) plus (b), 75%; (d) "time" portion, 25%.
2. Distribution of freight-train car retirements and depreciation on the basis of mileage (45%), time (48%), and loading and unloading (7%)	Schedule A, sheet 1, lines 10 and 11	Based on study by Engineering Section, Bureau of Valuation. The study developed the following breakdown for system freight-train car retirements and depreciation: (a) Mileage portion, 45%; (b) loading and unloading, 7%; (c) total "use" portion, (a) plus (b), 52%; (d) "time" portion, 48%.
3. Separation of car hire between interest portion (25%) and all other (75%)	Schedule A, sheet 1, items 20-22, inclusive	Factor of 25% (to nearest even five percent) based on evidence introduced in Docket 17801 (Exhibit 18), Rules for Car Hire Settlement, 160 I.C.C. 369, 378.
4. Treatment of car hire	Schedule A, sheet 1, lines 21-22	The freight-train car expenses for "other than mileage" cars include the net of the car hire on a "per diem" or "other" basis. Where the net of this car hire is a credit, this amount is credited to the carrier's freight-train car expense to avoid charging the traffic under study on the carrier's line with the maintenance expenses for the carrier's cars off line, such expenses being recoverable in the form of car hire. Where the net of the car hire is a debit, the amount is included with the time portion of the freight-train car expenses, such charges being directly proportional to the element of time (Schedule A). Offsetting debits and credits are disregarded on the assumption that in so far as the carrier's expenses are concerned, the foreign cars on line supplant the carrier's cars off line.
5. Elimination of freight-train car expenses on mileage cars and on cars for which per diem reclaim is received	Summary Schedule, sheet 2, lines 3, 4, 5, 18, 19, and 20	Freight-train car expenses for cars rented on a mileage basis are limited solely to those expenses incurred in terminals for which respondent is responsible, i.e., wrecks, derailments, etc. It is generally assumed that no other expense accrues in the terminal and that the mileage payments are applicable only to the line-haul mileage. However, where mileage rental payments are made for mileage incurred in terminal movements the formula provides for the inclusion of the costs (see Summary Schedule, sheet 2, footnote 12). Freight-train car expenses on "other than mileage" cars are eliminated on cars on which per diem reclaim is received on the assumption that such per diem reclaim compensates the switching carriers for all freight-train car expenses.
6. Computation of equated car-miles	Schedule A, sheet 2, line 27	Based on the car-miles in running and switching services, giving a weight of 1.0 to a car-mile in running service and a weight of 2.0 to a car-mile in switching service. Weighting is based on study by Engineering Section, Bureau of Valuation, and indicates that the expense for operating a car one mile in switching service is twice that in running service.
7. Distribution of enginehouse maintenance expenses between road and yard	Schedule C, sheet 1, line 4	Based on the number of engines given a full enginehouse servicing, applying a weight of 2.0 to a road passenger engine, 1.25 to a road freight engine, and 1.0 to a yard engine. A full enginehouse servicing consists of the total services that an engine normally receives in a 24-hour period. Weighting is based on study made by the Engineering Section, Bureau of Valuation, to develop the relative use made of the enginehouse facilities by engines in road and yard service.
8. Distribution of various items of expense on the basis of cars handled by zones, engine minutes, cars handled by classes of switching, car-days, car-miles, and cars loaded and unloaded	Schedules A to G	Each item of expense is distributed on the basis of one or more of those service units, i.e., cars handled, engine-minutes, car-days, etc., the production of which principally governs the expense. The expenses distributed on the basis of cars handled by zones principally include maintenance of way (track structure); maintenance and operation of special facilities such as drawbridges, ferries and wharves, etc.; the compensation of large crews of hump riders assigned exclusively to classification work; and the taxes and the return on value of the zone property. The expenses distributed on an engine-minute basis principally include maintenance of water and fuel stations and enginehouses; compensation of yardmasters, yard clerks, yard crews, etc.; yard fuel and yard water, and other yard expenses; and the taxes and return on the value of yard locomotives. Station expenses (where pertinent to the study) are distributed on the basis of cars handled by classes of switching. Such expenses include the maintenance of stations, station clerical expense, taxes on station property, and the return on the value of station property. The expenses distributed on a car-day basis include the time portion of the freight-train car maintenance and depreciation and the return on the value of freight-train cars. The expenses distributed on a car-mile basis include the mileage portion of the freight-train car repairs and depreciation. The expenses distributed on the basis of cars loaded and unloaded include that portion of the freight-train car repairs chargeable to the wear and tear occasioned by the actual loading and unloading operations. The formula provides for the use of both zones and switching elements. This is occasioned by the fact that under many circumstances the boundaries of switching elements do not coincide with the boundaries of the zones. However, a knowledge of the switching elements provides all of the information needed for the count of cars handled by zones without additional field study.

Rail Terminal Form F, 5-42

Description of the Classes of Switching under Study and Comparison of the Present or Proposed Rates for Each Class with the Cost for Each Class.

Railway
Summary Schedule
Sheet 1 of 2

Class of switching No.	Description of the class of switching under study 1/	Basis of car count 2/	Present rate		Proposed rates		Weighted average net load per car (pounds) 3/	Cost per car or per 100 pounds 4/										Class of switching No.
								Out-of-pocket costs		Freight operating expenses, rents and taxes		Freight operating expenses, rents, taxes, and ____% return on freight portion of value		Freight operating expenses, rents and taxes plus passenger operating deficit (exoluding return)		Freight operating expenses, rents, taxes, and ____% return and passenger deficit (inoluding passenger portion of return)		
			Per car	Per hundred pounds	Per car	Per hundred pounds		Per car 4/	Per hundred pounds 4/	Per car 4/	Per hundred pounde 4/	Per car 4/	Per hundred pounds 4/	Per car 4/	Per hundred pounds 4/	Per car 4/	Per hundred pounds 4/	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	
I																		I
II																		II
III																		III
IV																		IV
V																		V
VI																		VI
VII																		VII
VIII																		VIII
IX																		IX
X																		X
XI																		XI
XII																		XII
XIII																		XIII
XIV																		XIV
XV																		XV

Item No.

1 List special services performed by respondent on traffic under study: _____

2 List or describe present or proposed absorptions, if any: _____

3 List or describe practice concerning per diem reclaims: _____

4 State what changes in wage scales, tax payments, material prices or other items occurring since the accounting period covered by this study would occasion higher or lower costs in the near future, as compared with the expenses incurred in the period of study. (See Introductory Remark No. 6 and Summary Schedule, sheet 2, footnote 10). _____

5 Remarks _____

Footnotes

1/ Describe in column (1) each class of switching for which costs are to be determined. The classes of switching thus established will depend upon the nature of the study being made, such, for example, as carrier terminal switching, connection terminal switching, interchange switching, intermediate switching, intraterminal switching, interterminal switching, and intratrain or intertrain switching. Each of these classes of switching may be further separated between the traffic handled for each of respondent's connecting lines, by industries, or by groups of industries. Assign a number to each class of switching (Roman numerals).

2/ The count of cars will depend upon the class of switching under study. For intertrain, intratrain, interchange and intermediate switching, the count may be based upon the total cars handled (loaded or empty). For carrier terminal switching, connection terminal switching, intraterminal switching and interterminal switching, the count should be based on the loaded cars handled. The basis for the count will depend primarily upon whether the rates or charges under study are based on the total cars handled (loaded or empty) or based on the loaded cars only. Insert in column (2) the basis for car count used. Designate the count based on total cars handled (loaded or empty) as "Tot. cars". Designate the count based on loaded cars handled as "Ld. cars".

3/ Insert weighted average net load per car (pounds) when it is desired to show a cost per hundred pounds. For source, see Form 5, line 11, column (11).

4/ Source of cost data is as follows (using Class I as an illustration):
Compute cost per 100 pounds only when pertinent to study.
For column (8) see Summary Schedule, sheet 2, line 13, column (3).
For column (9) divide column (8) by the weighted average net load from column (7).
For column (10) see Summary Schedule, sheet 2, line 13, column (4).
For column (11) divide column (10) by the weighted average net load from column (7).
For column (12) see Summary Schedule, sheet 2, line 13, column (5).
For column (13) divide column (12) by the weighted average net load from column (7).
For column (14) see Summary Schedule, sheet 2, line 15, column (4).
For column (15) divide column (14) by the weighted average net load from column (7).
For column (16) see Summary Schedule, sheet 2, line 15, column (5).
For column (17) divide column (16) by the weighted average net load from column (7).
Out-of-pocket costs need not be computed except where requested. For the procedure to be followed in the computation of the out-of-pocket costs, see Introductory Page No. 3.

Rail Terminal Form F, 5-42

Summary of Costs for the Different Classes of Switching Services 1/

_____ Railway
Summary Schedule
Sheet 2 of 2

Line No.	Item (1)	Source 2/ (2)	Costs per total car handled (loaded or empty) or per loaded car as indicated below (see captions)									Line No.
			Out-of-pocket expenses 3/ (3)	Operating expenses, rents and taxes (4)	Operating expenses, rents, taxes and return 4/ (5)	Out-of-pocket expenses 3/ (6)	Operating expenses, rents, and taxes (7)	Operating expenses, rents, taxes and return 4/ (8)	Out-of-pocket expenses 3/ (9)	Operating expenses, rents and taxes (10)	Operating expenses, rents, taxes and return 4/ (11)	
			Class of switching No. _____ Description _____ No. of cars 5/ _____			Class of switching No. _____ Description _____ No. of cars 5/ _____			Class of switching No. _____ Description _____ No. of cars 5/ _____			
1	Switching service	Sch. F, line 52, cols. (22) or (23)										1
2	Station service--Clerical	Sch. D, line 19 or 20 6/										2
	Freight-train car expenses:											
3	Mileage portion	7/										3
4	Time portion	8/										4
5	Loading and unloading portion	9/										5
6	Cost per car, revenue traffic	Lines 1-5, inclusive										6
7	Adjust. for abnormal exp. (increase or decrease)	10/										7
8	Special services	Sch. E 11/										8
9	Special services	Sch. E 11/										9
10	Special services	Sch. E 11/										10
11	Private car rentals and expenses	12/										11
12	Cost for nonrevenue traffic	Sch. G, line 20										12
13	Total cost per car incl. nonrevenue traffic	Lines 6 to 12, inclusive										13
14	Passenger deficiency	13/	xxx			xxx			xxx			14
15	Cost per car including passenger deficiency	Line 13 + line 14	xxx			xxx			xxx			15
			Class of switching No. _____ Description _____ No. of cars 5/ _____			Class of switching No. _____ Description _____ No. of cars 5/ _____			Class of switching No. _____ Description _____ No. of cars 5/ _____			
16	Switching service	Sch. F, line 52, cols. (22) or (23)										16
17	Station service--Clerical	Sch. D, line 19 or 20 6/										17
	Freight-train car expenses:											
18	Mileage portion	7/										18
19	Time portion	8/										19
20	Loading and unloading portion	9/										20
21	Cost per car, revenue traffic	Lines 16-20, inclusive										21
22	Adjust. for abnormal exp. (increase or decrease)	10/										22
23	Special services	Sch. E 11/										23
24	Special services	Sch. E 11/										24
25	Special services	Sch. E 11/										25
26	Private car rentals and expenses	12/										26
27	Cost for nonrevenue traffic	Sch. G, line 20										27
28	Total cost per car incl. nonrevenue traffic	Lines 21 to 27, inclusive										28
29	Passenger deficiency	13/	xxx			xxx			xxx			29
30	Cost per car including passenger deficiency	Line 28 + line 29	xxx			xxx			xxx			30

(See reverse side for footnotes)

1/ Fill out as many sheets of this schedule as are required to assemble the cost for each class of switching shown on Summary Schedule, sheet 1. Note: Although the freight-train car expenses are accumulated on this schedule separately for "mileage" cars and "other than mileage" cars, such expenses are distributed over the total count of cars for each class of switching, mileage cars and "other than mileage" cars, to obtain a weighted average cost per car. Where costs are desired separately by types of equipment, separate classes of switching should be established.

2/ Insert the cost data for each element of service from the source indicated in column (2). Where the source designates two columns, the first column refers to the operating expenses, rents and taxes to be used in filling out columns (4), (7) and (10); the second column refers to the operating expenses plus a return for use in filling out columns (5), (8) and (11).

3/ Compute the out-of-pocket expenses only when required. See instructions in Introductory Page No. 3.

4/ The allowance for return on value is based upon the rate of return prescribed in the instructions in Introductory Page No. 3.

5/ Insert count of cars from Schedule F, line 51, column (21). If the count of cars is based on total cars handled, loaded or empty, designate as "Tot. cars". If the count is based on the loaded cars only, designate as "Ld. cars".

6/ Insert the clerical expense per car from Schedule D, columns (6) to (10) as applicable.

7/ Compute as follows: The costs inserted in columns (5), (8) and (11) will be identical with the costs inserted in columns (4), (7) and (10), respectively.

Class of switching No. (1)	Equated car-miles* (2)	Mileage cost (col. (2) x Sch. A, sheet 1, line 36, col. (33)) (3)	Number of cars** (4)	Cost per car (col. (3) ÷ col. (4)) (5)

* Actual miles from Form 5, line 6, column (11), multiplied by 2.
** From Summary Schedule, sheet 2 (see captions).

8/ Compute as follows:

Class of switching No. (1)	Car days* (2)	Car-day costs excl. return (col. (2) x Sch. A, sheet 1, line 37, cols. (35) + (36)) (3)	Car-day costs incl. return (col. (2) x Sch. A, sheet 1, line 37, col. (37)) (4)	Cost per car excl. return (col. (3) ÷ footnote 7, col. (4) as applicable) (5)	Cost per car incl. return (col. (4) ÷ footnote 7, col. (4) as applicable) (6)

* Car days from Form 5, line 7, column (11).

9/ Includes expenses chargeable to the wear and tear on freight-train cars occasioned by the physical loading and unloading operations. Expenses are not applicable to those classes of switching which do not include the loading and unloading of the car such as intertrain or intratrain switching, interchange switching, and intermediate switching. The entries in columns (5), (8) and (11) will be identical with the entries in columns (4), (7) and (10), respectively. Compute as follows:

Class of switching No. (1)	Number of carloads loaded or unloaded* (2)	Loading and unloading costs (col. (2) x Sch. A, line 38, col. (39)) (3)	Number of cars** (4)	Cost per car (col. (3) ÷ col. (4)) (5)

* From Form 5, line 1, column (11).
** From Summary Schedule, sheet 2 (see captions).

10/ Leave lines 7 and 22 blank where no adjustments are made for abnormal expenses, or if such adjustments are incorporated directly in the primary accounts (see Introductory Remark No. 6). Otherwise compute as follows: Multiply lines 6 and 21, columns (4), (7) and (10), by the ratio developed in line (g) below. The entries in columns (5), (8) and (11) should be identical with the entries made in columns (4), (7) and (10), respectively. Where out-of-pocket costs are computed, follow the same procedure for columns (3), (6) and (9) as is prescribed herein for columns (4), (7) and (10).

Item (1)	Source (2)	Amount (3)
Adjustments for abnormal expenses (frt. and pass.):		
(a) Wages	Special study*	
(b) Taxes	Special study*	
(c) Materials and supplies	Special study*	
(d) Other (define) _____	Special study*	
(e) Total	Lines (a) to (d), inclusive	
(f) Total operating expenses, rents and taxes	A.R. Sch. 300I, sum of lines 4, 6, and 24, column (b)**	
(g) Ratio of adjustment to total operating expenses, rents and taxes	Line (e) ÷ line (f)	

* Compute from special study the amounts by which wages, taxes, materials and supplies, etc., would be increased or decreased for the annual period as the result of changes in the wage levels, tax rates, price levels, etc., occurring subsequent to the periods on which the cost study is based.
** Use latest annual accounting period.

11/ Bring forward from Schedule E, lines 21-23, the costs applicable to each class of switching for insertion in columns (4), (7) and (10). The amounts included in columns (5), (8) and (11) will be identical with those inserted in columns (4), (7) and (10), respectively. Special services based on work performed by respondent (i.e., not an absorption) should be increased for abnormal expenses, if any, by the amount computed by multiplying the operating expenses and taxes by the ratio shown in footnote 10 hereto, line (g).

12/ Include only those repair expenses on "mileage" cars which are chargeable to respondent (see Schedule A, sheet 1, footnote 2(b)). The entries in columns (5), (8) and (11) will be identical with entries in columns (4), (7) and (10), respectively. Compute cost per car as follows:

Class of switching No. (1)	Equated car-miles* (2)	Mileage cost (col. (2) x Sch. A, sh. 1, line 35, col. (33)) (3)	Mileage rental** (4)	Cost per car (sum of cols. (3) & (4) ÷ footnote 7, col. (4)) (5)

* Actual miles from Form 5, line 5, column (11), multiplied by 2.
** If rentals are paid for the use of the car in switching service at terminal under study, multiply actual miles by rentals per mile and insert product in column (4).

13/ Compute passenger deficiency only when so instructed on Introductory Page No. 3.
(a) Compute the passenger deficiency per car for insertion in line 14, column (4) as follows: Subtract from line 13, column (4) the amount shown in line 7 and any absorptions contained in lines 8, 9 and 10. Multiply the remainder by ratio from Schedule E, sheet 1, line 28. Follow same procedure for line 14, columns (7) and (10) and for line 29, columns (4), (7) and (10).
(b) Compute passenger deficiency per car for insertion in line 14, column (5) as follows: Subtract from line 13, column (5) the amount shown in line 7 and any absorptions contained in lines 8, 9 and 10. Multiply remainder by ratio from Schedule E, sheet 1, line 31. Follow same procedure for line 14, columns (8) and (11) and for line 29, columns (5), (8) and (11).

Rail Terminal Form F, 5-42

Separation of System Freight Equipment Maintenance and Rental Expenses between Types of Equipment and the Computation of Unit Costs for Yard Locomotives and Freight Train Cars

_____ Railway
Schedule A
Sheet 1 of 2

Line No.	Account No. (1)	Expense groups (2)	System freight expenses from Annual Report (3)	Apportionment factors (See Introductory Remark 4) (4)	Steam locomotives: Road (5)	Steam locomotives: Yard (6)	Other locomotives: Road (7)	Other locomotives: Yard (8)	Freight-train cars: Rented on mileage basis (9)	Freight-train cars: "Other than mileage" cars: Mileage portion (10)	Freight-train cars: "Other than mileage" cars: Time portion (11)	Freight-train cars: "Other than mileage" cars: Loading and unloading (12)	Work equipment (13)	Floating equipment and special services (14)	Line No.
		Maintenance of Equipment													
1	301	Superintendence		Accts. 308-26, incl.											1
2	302-03	Shop machinery		Accts. 308-26, incl.											2
3	304-05	Power plant machinery (port. not used for tr. opr.) 1/		Accts. 308-26, incl.											3
4	308	Steam locomotives, repairs		Direct			xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	4
5	311	Other locomotives, repairs		Direct	xxx	xxx			xxx	xxx	xxx	xxx	xxx	xxx	5
6	314	Freight-train cars, repairs		2/	xxx	xxx	xxx	xxx					xxx	xxx	6
7	323	Floating equipment, repairs		Direct	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx		7
8	326	Work equipment, repairs		Direct	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx		xxx	8
9	328	Miscellaneous equipment, repairs		Accts. 308-26, incl.											9
10	329-30	Equip. retirements excl. miscellaneous equipment		3/					xxx						10
11	331	Equip. depreciation excl. miscellaneous equipment		3/					xxx						11
12	329-31	Equip. retirements and depreciation, misc. equip.		Accts. 308-26, incl.											12
13	332-35	Injuries, insurance, stationery and other		Accts. 308-26, incl.											13
14	336	Maintenance joint equipment, -Dr.		Accts. 308-26 4/											14
15	337	Maintenance joint equipment, -Cr.		Accts. 308-26 4/											15
16		Payroll taxes, total - Maintenance of Equipment		Accts. 308-26, incl.											16
		From Maintenance of Way and Structures													
17	235-36	Shops and enginehouses (shop and storehouse port.) 5/		Accts. 308-26, incl.											17
18	253-54	Power plants (portion not used for tr. opr.) 1/		Accts. 308-26, incl.											18
19	257-58	Power-trans. sys. (portion not used for tr. opr.) 1/		Accts. 308-26, incl.											19
		Equipment Rents													
20	503,36	Hire, freight cars: Mileage basis		6/	xxx	xxx	xxx	xxx	xxx				xxx		20
21		- Per diem basis (net)		7/	xxx	xxx	xxx	xxx	xxx				xxx		21
22		- Other basis (net)		7/	xxx	xxx	xxx	xxx	xxx				xxx		22
23	504,37	Locomotive rent (net)		8/					xxx	xxx	xxx	xxx	xxx	xxx	23
24	506,39	Floating equipment rent (net)		Direct	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx		24
25	507,40	Work equipment rent (net)		Direct	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx		xxx	25
26		Ad valorem taxes - shops, etc. 9/		Accts. 308-26, incl.											26
27		Total (lines 1-26)		-											27

Separation of Yard Locomotive Maintenance and Rentals by Individual Locomotives or Classes of Locomotives 10/

Line No.	Description of engines or class of engines 11/ (15)	Number of locos. in class (16)	General repairs 12/: General repairs at last two general shoppings 13/ (17)	General repairs 12/: Loco. hours operated between first preceding and third preceding general shopping (18)	General repairs 12/: Cost per locomotive hour for general repairs (col.(17)÷col.(18)) (19)	Other repairs 14/: Other repairs during year of study (20)	Other repairs 14/: Locomotive hours operated during year of study (21)	Other repairs 14/: Cost per locomotive hour for "other" repairs (col.(20)÷col.(21)) (22)	Total cost of repairs, general and "other" (col.(19) + col.(22)) (23)	Cost per hour for overhead and payroll taxes (col.(23) x ratio) 15/ (24)	Equipment retirements per locomotive hour 16/ (25)	Depreciation per locomotive hour 17/ (26)	Rental expenses per hour 18/ (27)	Total cost per locomotive hour (col.(23) to col.(27) inclusive) (28)	Computation of weighted average cost 19/: (Col.(21) x col.(28)) (29)	Computation of weighted average cost 19/: Total 20/ (30)	Line No.
	Computation of Cost by Individual Locomotives or Class of Locomotives 21/																
28																	28
29																	29
30																	30
31																	31
32																	32
	System Average Cost 22/																
33	Locomotives - Steam		xxx	xxx	xxx	xxx		xxx	xxx	xxx	xxx	xxx	xxx		xxx	xxx	33
34	- Other		xxx	xxx	xxx	xxx		xxx	xxx	xxx	xxx	xxx	xxx		xxx	xxx	34

Separation of Freight-train Car Expenses between Mileage Portion, Time Portion, and Loading and Unloading Portion 30/

Line No.	Item (31)	Mileage portion: Expenses (from line 27, col.(9) or (10), as applicable) (32)	Mileage portion: Cost per equated car-mile 23/ (33)	Time portion: Expenses (from line 27, col. (11)) (34)	Time portion: Cost per active car-day: Expenses (35)	Time portion: Cost per active car-day: Equipment taxes (36)	Time portion: Cost per active car-day: Including return (37)	Loading and unloading portion: Expenses (from line 27, col. (12)) (38)	Loading and unloading portion: Cost per carload originated or terminated (39)	Line No.
35	Expenses for mileage cars, excl. rentals (omit if not pertinent to study) (from col.(9))		24/	xxx	xxx	xxx	xxx	xxx	xxx	35
36	Mileage portion of expenses, "other than mileage" cars (from col. (10))		25/	xxx	xxx	xxx	xxx	xxx	xxx	36
37	Time portion of expenses, "other than mileage" cars	xxx	xxx		26/	27/	28/	xxx		37
38	Loading and unloading portion of expenses, "other than mileage" cars	xxx	xxx	xxx	xxx	xxx	xxx		29/	38

(See reverse side for footnotes)

1/ Insert in Schedule A the total expenses for the accounts shown, except where 10 percent or more of the current consumed is chargeable to operation of trains. In the latter case, apportion between train operation and maintenance of equipment on the basis of current consumed, as indicated by tests. Insert Maintenance of Equipment portion in Schedule A.

2/ (a) Apportion 70 percent of the expenses to col. (10); 25 percent to column (11), and 5 percent to col. (12)
(b) Where so instructed in Introductory Page No. 3 hereto, include in column (9), line 6, those repairs to cars rented on a mileage basis which are chargeable to respondent. To be based on best data available. Apportion remaining expenses as provided for in (a).

3/ Distribute direct to the different types of equipment. Where direct separation not available, separate locomotive retirements and depreciation between road and yard on basis of book investment of equipment assigned to each service. Where equipment is used jointly in road and yard service, assign to that service in which the use predominates. Apportion freight-train car retirements and depreciation 45 percent to column (10); 48 percent to column (11); and 7 percent to column (12).

4/ See instructions, Introductory Remarks, No. 5.

5/ Exclude enginehouse portion. If separation not currently maintained, separate on basis of best data available.

6/ Where respondent owns a substantial number of freight-train cars which it rents to others on a mileage basis, the maintenance and depreciation expenses assignable to the use of such equipment when off line should be deducted from respondent's total car expenses (columns (10), (11), and (12) to prevent distortion of the unit car-mile costs for "other than mileage" cars. Treat as follows:
(a) Where respondent shows $50,000 or less for amounts receivable for its cars rented to others on a mileage basis (A.R. Sch. 376, line 45, column (b)) omit any adjustment and assign the net of the total debits and credits, Accounts 503 and 536, for cars rented on a mileage basis, to column (14).
(b) Where respondent shows an excess of $50,000 for amounts receivable for its cars rented to others on a mileage basis (A.R. Sch. 376, line 45, column (b)), assign 75 percent of such credit to columns (10), (11), and (12). Use as a prorate factor the sum of the car repairs, retirements and depreciation appearing in lines 6, 10, and 11 of columns (10), (11), and (12).
(c) Where the amount shown in line 20, column (3), is a debit, add the amounts inserted in columns (10), (11), and (12), (as provided for herein), to the amounts shown in column (3) and insert the total in column (14).
(d) Where the amount shown in line 20, column (3), is a credit, subtract the amounts inserted in columns (10), (11), and (12), (as provided for herein), from the total in column (3) and insert the remainder in column (14).

7/ If a debit balance, assign to column (11). If a credit balance, assign 25 percent to column (14) and apportion the balance between columns (10), (11), and (12) on the basis of the freight-train car repairs, retirements and depreciation, lines 6, 10, and 11, columns (10), (11), and (12).

8/ Assign direct where possible; otherwise, apportion on basis of Accounts 308 and 311.

9/ Compute from special study of respondent's tax records the ad valorem taxes for the annual period on the system general shops and storehouses (excluding enginehouses), power plants not used for train operation, power transmission systems not used for train operation, and work equipment.

10/ Use lines 28 to 32 to develop the maintenance cost for the class of yard locomotives used in handling the traffic under study. If the yard locomotives are regularly assigned and continuously used in switching service, assign the repairs direct; if not continuously used in the terminal under study, apply average cost per hour for class of power used to hours operated in terminal during test. If road locomotives are used in yard service, develop the cost for such road locomotives on the same basis as that outlined for yard locomotives. Where the repair costs cannot be developed from the carrier's records by individual yard locomotives or by classes of yard locomotives, the system average expense shall be used, separated as applicable between steam and other, lines 33 and 34. Where a carrier maintains a record of the general repairs by individual locomotives or classes of locomotives, but groups its other repairs (running repairs), develop in columns (17) to (19), the general repair expense per hour for such locomotives to which shall be added the system average running repairs per locomotive hour for all yard locomotives (see columns (20) to (22)).

11/ Identify in this column the yard locomotives used in the switching under study. If only one class of locomotive is used in the terminal, develop the cost for that class on line 28; if different classes of yard locomotives are used for different classes of switching, develop separately the cost for each class of locomotive using as many lines as are required. See Introductory Remark No. 3. If system average yard locomotive costs are used, fill out lines 33 and 34.

12/ General repairs to be based upon the expenses for such repairs at the last two general shoppings divided by the locomotive hours operated immediately prior to these shoppings, i.e., between the first and third preceding shoppings.

13/ Include only charges to Accounts 308 or 311. Do not include allowance for supervision or overhead which are treated in column (24). If any of the locomotives or classes of locomotives involved in the study are jointly maintained, an analysis shall be made of the bills for determining the total cost attributable to such locomotives, irrespective of a separation of such expenses between the participating carriers.

14/ Includes all repairs except general repairs. Such repairs, commonly termed "Running repairs", shall be based on one year's experience only, namely, the year of study. This is usually the last full annual accounting period prior to the test study.

15/ Compute the ratio as follows: The sum of col. (3), lines 1-3, 9, 12, 13, 16-19, and 26, to the sum of lines 4-8, inclusive.

16/ Compute by dividing the retirements for the accounting year for the class of locomotives under study by the hours operated from column (21). If data by individual locomotives or classes of locomotives are not available, compute by dividing amount shown on line 10, column (6) or (8), as applicable, by the total locomotive hours for the accounting period. See Form OS-C for the accounting period, items 1-01 and 1-02 (steam locomotives) or items 1-03 to 1-05 (other locomotives).

17/ Compute depreciation by applying the depreciation rate for locomotives against the ledger value of the locomotives under study. Divide the result by hours operated during the accounting year shown in column (21). Where system average yard locomotive costs are used, divide depreciation shown on line 11, column (6) or (8), as applicable, by the system hours operated. See Form OS-C for the accounting period, items 1-01 and 1-02 (steam locomotives) or items 1-03 to 1-05 (other locomotives).

18/ Amount to be based on rental expenses for the accounting year or such part of the year as locomotives are rented. Divide such expenses by the locomotive hours operated during the period of the rental. If repairs, retirements, or depreciation on the rented locomotives are borne by the owner and not by the renter, no allowances should be included in the study for such repairs, retirements, or depreciation.

19/ Use columns (29) and (30) for the computation, where desired, of a weighted average cost for different classes of locomotives. See Introductory Remark No. 3. If a weighted average cost by classes of locomotives is not developed, leave columns (29) and (30) blank.

20/ Compute the weighted average cost per locomotive hour for the classes of locomotives whose costs are averaged by dividing the aggregate expenses for such locomotives in column (29) by the aggregate hours for such classes of locomotives computed from column (21).

21/ See Introductory Remark No. 3 for instructions concerning the computation of maintenance cost by classes of locomotives.

22/ If system average yard locomotive costs are used, fill out lines 33 and 34. Divide expenses shown on line 27, column (6) or (8), as applicable, by the system locomotive hours to be inserted in column (21), lines 33 and 34, to develop the cost per hour for column (28).

23/ Costs per equated car-mile are based on a weight of one given to a mile in running service and a weight of two given to a mile in switching service. The unit cost per equated mile thus developed should be multiplied by 1.0 when applied to actual miles incurred in running service. It should be multiplied by 2.0 when applied to actual miles incurred in switching service.

24/ Divide expenses in column (32) by equated car-miles for mileage cars (from Schedule A, sheet 2, line 28, column (15)). Multiply quotient by (1.0 + ratio from Schedule E, line 19, column (4)).

25/ Divide column (32) by equated car-miles for "Other than mileage" cars (from Schedule A, sheet 2, line 28, column (16)). Multiply quotient by (1.0 + ratio from Schedule E, line 19, column (4)).

26/ Divide column (34) by active car-days for "Other than mileage" cars (from Schedule A, sheet 2, line 29, column (20)). Multiply quotient by (1.0 + ratio from Schedule E, line 19, column (4)).

27/ Compute from special study of respondent's tax records the ad valorem taxes for the annual period chargeable to freight-train cars ("other than mileage"). Divide the system ad valorem taxes thus obtained by the active car-days for "other than mileage" cars from Schedule A, sheet 2, line 29, column (20).

28/ Compute return on value chargeable to freight train cars ("other than mileage") as follows:

Line No.	Item (1)	Source (2)	Amount (3)
(a)	Recommended value of freight-train cars - all other	Val. Form, Sch. C, sheet 1, line 11	
(b)	Return on value at ____ percent*	Line (a) x _____ ratio	
(c)	Active car-days	Sch. A, sheet 2, line 29, column (20)	
(d)	Return on value per active car-day	Line (b) + line (c)	

* See Introductory Page No. 3, for prescribed rate of return.

Insert in line 37, column (37) the sum of line 37, columns (35) and (36) plus return on value from line (d), column (3), hereto.

29/ Expenses in column (38) divided by total of cars loaded plus cars unloaded for "Other than mileage" cars. Multiply quotient by (1.0 + ratio from Schedule E, line 19, column (4)). If data not currently available, compute count of cars as follows: Schedule A, sheet 2, column (3), sum of lines 2, 4, 6, 14, 18, plus twice line (12). Multiply this total by ratio of "Other than mileage" carloads to total carloads. Compute ratio as follows: 1.0 minus ratio from Schedule A, sheet 2, footnote 17, line (e). Insert resultant count of carloads: _____. If Schedule A, sheet 2, is not filled out, follow tenor of instructions for developing the count of cars referred to above.

30/ When the switching study is limited exclusively to cars upon which the per diem reclaim is collected and freight train car expenses are omitted from such study, lines 35 to 38 of Schedule A, sheet 1, and all of Schedule A, sheet 2 may be left blank.

Rail Terminal Form F, 5-42

Computation of System Freight Train Miles and Active Car Days

_____ Railway
Schedule A
Sheet 2 of 2

Line No.	Item	Computation of Car-miles and active car days for all cars										Line No.
		Number of cars		Car-miles		System car-days in running, switching and loading and unloading						
							Switching service		Loading and unloading			
		Source	Aggregate	Normal movement (miles) 1/	Total car-miles (Col. (3) x col. (4))	Running service	Approximate car-days per car 1/	Total car-days (Col. (3) x col. (7))	Approximate car-days per car 1/	Total car-days (Col. (3) x col. (9))	Total car-days (Cols. (6) + (8) + (10))	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	
	Running Service											
1	Total freight cars, loaded and empty, including cabooses	xxx	xxx	xxx	2/	3/	xxx	xxx	xxx	xxx		1
	Switching Service											
2	Carrier terminal switching, industry and team tracks (loads)	4/				xxx						2
3	Carrier terminal switching, industry and team tracks (empties)	5/				xxx			xxx	xxx		3
4	Carrier terminal switching, freighthouse tracks (loads)	6/				xxx						4
5	Carrier terminal switching, freighthouse tracks (empties)	5/				xxx			xxx	xxx		5
6	Connection terminal switching (cars originated or terminated by respondent and receiving connecting line road haul) (loads)	7/				xxx						6
7	Connection terminal switching (cars originated or terminated by reepondent and receiving connecting line road haul) (empties)	5/				xxx			xxx	xxx		7
8	Interchange switching (loads)	8/				xxx			xxx	xxx		8
9	Interchange switching (empties)	9/				xxx			xxx	xxx		9
10	Intermediate switching (loads)	10/				xxx			xxx	xxx		10
11	Intermediate switching (empties)	9/				xxx			xxx	xxx		11
12	Intraterminal switching (loads)	11/				xxx			xxx	xxx		12
13	Intraterminal switching (empties)	5/				xxx						13
14	Interterminal switching (loads)	12/				xxx			xxx	xxx		14
15	Interterminal switching (empties)	5/				xxx						15
16	Intertrain and intratrain switching (loads)	13/				xxx			xxx	xxx		16
17	Intertrain and intratrain switching (empties)	9/				xxx			xxx	xxx		17
18	Carrier terminal switching - nonrevenue (loads)	14/				xxx			xxx	xxx		18
19	Carrier terminal switching-nonrevenue (empties)	5/				xxx						19
20	Subtotal (lines 2-19, inclusive)	xxx	xxx	xxx		xxx	xxx		xxx			20
	Total Running, Switching, and Loading and Unloading											
21	Total (lines 1 plus 20)	xxx	xxx	-			-		-			21

Separation of Car-miles and Active Car-days between "Mileage" Cars and "Other than Mileage" Cars

Line No.	Item	Car-miles				Active car-days				Line No.
		Total, all cars (from col.5)	"Mileage" cars		"Other than mileage" cars (col. 13 minus col.15)	Total, all cars (from col. 11)	"Mileage" cars		"Other than mileage" cars (col. 17 minus col. 19)	
			Percent of total	Amount (col.13 x col.14)			Percent of total	Amount (col.17 x col.18)		
	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	
	Running Service									
22	Total freight cars, including caboose, running service (from line 1)		xxx	15/			16/			22
	Switching Service									
23	Carrier terminal switching, industry and teamtrack, connection terminal switching, intraterminal, interterminal and carrier terminal switching - nonrevenue freight (from lines 2, 3, 6, 7, 12, 13, 14, 15, 18, and 19)		17/				17/			23
24	Carrier terminal switching, freighthouse tracks (from lines 4 and 5)		18/				18/			24
25	Interchange switching, intermediate switching, and intertrain and intra-train switching (from lines 8, 9, 10, 11, 16, and 17)		16/				16/			25
26	Subtotal (lines 23-25, inclusive)		xxx				xxx			26
27	Total equated car-miles in switching (line 26 x 2.00)		xxx			xxx	xxx	xxx	xxx	27
	Total - Running, Switching, and Loading and Unloading									
28	Total equated car-miles (line 22 plus line 27)		xxx			xxx	xxx	xxx	xxx	28
29	Total active car-days (line 22 plus line 26)	xxx	xxx	xxx	xxx		xxx	xxx		29

(See reverse side for footnotes)

1/ (a) Show in column (4) the approximate car-miles for each class of switching for which the number of cars are shown in column (3). Such estimates should reflect system averages, the data to be based on special studies.

(b) Show in column (7) the approximate car-days for each class of switching for which the number of cars are shown in column (3). Such estimates should reflect system averages, the data to be based on the basis of car records, per diem reclaims, demurrage records and available switching studies.

(c) Where respondent does not have the car-mile and car-day factors available, use the following factors. Such factors are to be inserted separately for the loaded and empty movements, as indicated in column (1) below:

Line reference (Sch. A, sheet 2) (1)	Item (2)	Car-miles Normal movement (for insertion in col. (4)) (3)	Car-days per car: Switching (for insertion in col. (7)) (4)	Car-days per car: Loading & unloading (for insertion in col. (9)) (5)
2 and 3	Carrier terminal switching (industry and team track)	4.0	0.50	1.75
4 and 5	Carrier terminal switching (freighthouse track)	3.5	0.50	0.50
6 and 7	Connection terminal switching	4.0	0.50	1.75
8 and 9	Interchange switching (per carrier)	2.75	0.33	xxx
10 and 11	Intermediate switching			xxx
12 and 13	Intraterminal switching			3.50
14 and 15	Interterminal switching (per carrier)			1.75
16 and 17	Intertrain and intratrain switching	1.0	0.33	xxx
18 and 19	Carrier terminal switching-nonrev. frt.			1.75

2/ From A.R. Schedule 531, column (b), sum of items 40, 41 and 48.

3/ Compute car-days - running service, as follows:

Item	Amount
(a) Train hours, including train-switching hours at way stations (A.R. Sch. 531, item 64, column (b))	
(b) Average cars per train (A.R. Sch. 531, (items 40 and 41, column (b)) + item 15, column (b))	
(c) Freight-train cars, hours - running (line (a) x line (b))	
(d) Freight-train car days - running (line (c) ÷ 24 hours)	
(e) Caboose car days (train hours, line (a) ÷ 24 hours)	
(f) Total car days, including caboose (line (d) + line (e))	

4/ (a) Compute the total loads originated and terminated from A.R. Sch. 541, class 850, sum of columns (d) and (f), plus twice column (b).

(b) Compute the loaded cars switched for respondent by other lines at origin and destination terminals, based on current records, switching settlement statements or test data.

(c) Deduct the number of cars shown in (b) from those shown in (a) and insert remainder in line 2, column (3).

5/ The number of empties equals the number of loads times the system average ratio of the total empties spotted and switched out to the total loads spotted and switched out at industry and team tracks and freighthouse tracks. Compute on basis of current switching records, data obtained in switching studies, or special tests. Show ratios used: line 3 ____; line 5 ____; line 7 ____; line 13 ____; line 15 ____; line 19 ____.

6/ If not available, compute as follows:

Item	Source	Amount
(a) Total tons of l.c.l. traffic handled	A.R. Sch. 541, class 710, sum of cols. (e)+(g) + twice col. (c)	tons
(b) Average load, tons per car forwarded	Current records or special studies •	tons
(c) Number of loaded cars	Line (a) ÷ line (b)	cars
(d) Number of loaded cars originated or terminated, re transfers	Current records or special studies ••	cars
(e) Total cars	Line (c) + line (d)	cars

• For example, see Forwarder Report, Senate Resolution 146, Statement 6, column (14)

•• Where respondent has no other source of information, compute the ratio of tons actually transferred to tons originated and received as follows: See Forwarder Report, Senate Resolution 146, Statement 6, column (5) divided by sum of column (1) plus column (2). Multiply this ratio by the total tons, originated and received, from Annual Report, Schedule 541, class 710, column (k). Divide the total tons transferred, thus computed, by the average load shown in line (b) of this footnote. Insert the quotient in line (d).

7/ Compute the loaded cars switched by respondent for connecting lines, based on current records, switching settlement statements or test data.

8/ See A.R. Schedule 541, class 850, sum of columns (d) plus (f) plus twice column (h). This treatment does not include l.c.l. cars given an interchange switching for the reason that the car-miles and car days chargeable to this service are negligible.

9/ The number of empties equals the number of loads multiplied by the system ratio of empty car-miles to loaded car-miles (A.R. Sch. 531, column (d), item 41 divided by item 40. Ratio _____).

10/ Compute from test check of station or switching records. Give one count only to each car given an intermediate switching which includes the switching services at both point of receipt and point of delivery. (Note: The allowances for car-miles and car-days for intermediate switching shown in footnote 1 hereto were obtained by multiplying factors for interchange switching by 2.)

11/ Compute from test check of station or switching records. Give one count only for each car given an intraterminal switching which includes the switching at both origin and destination industries. (Note: The car-mile and car-day factors shown for intraterminal switching in footnote 1 are based on the factors for carrier terminal switching multiplied by 2.)

12/ Compute from test checks of station or switching records. (Note: The car-mile and car-day factors shown for interterminal switching in footnote 1 are based on the sum of the factors shown for carrier terminal switching and interchange switching.)

13/ If not otherwise available, compute by dividing the loaded car-miles from A.R. Schedule 531, item 40, column (b) by 150.

14/ If data not available, compute as follows:

Item	Source	Amount
(a) Tons of nonrevenue freight carried	A.R. Sch. 531, item 80	tons
(b) Average net load of company material	Special study •	tons
(c) Total number of loaded cars handled, nonrevenue freight	Line (a) ÷ line (b)	cars
(d) Count of cars nonrevenue, loads	Line (c) x 2	cars

• Where data not available, use 39 tons per car. Based on distribution of company materiel by classes of equipment furnished by carriers.

15/ Insert car-miles run by "mileage" cars on respondent's lines, based on respondent's car-hire records.

16/ The separation of the car-miles and the active car-days between "mileage" and "other than mileage" cars is based on the ratio of the car-miles in running service for each of these classes of cars to the total car-miles in running service. For percent, see line 22, col. (15) ÷ col. (13).

17/ The separation of the active car days and car-miles for "other than mileage" cars is based on the ratio (percent) of the carloads originated and carloads terminated in "other than mileage" cars to the total carloads originated and terminated. Where the available records do not permit of a count of the carloads originated or terminated in either "mileage" cars or "other than mileage" cars, compute the ratio as provided for below. The computation is based on the assignment of that traffic normally moving in refrigerator and tank cars to "mileage" cars.

Item	Source	Amount
(a) Carloads assigned to refrigerator cars	See A.R. Sch. 541, cols. (d) + (f) + twice col. (b), classes 110-143, 210-22, 231-251, 630 •	
(b) Carloads assigned to tank cars	See A.R. Sch. 541, cols. (d) + (f) + twice col. (b), classes 280, 360, 370, 441, 450, 451, 460-462, 472, 660, 661 •	
(c) Total carloads assigned to refrigerator and tank cars	Line (a) + line (b)	
(d) Total carload traffic "mileage" cars plus "other than mileage" cars	A.R. Sch. 541, class 850, cols. (d) + (f) + twice col. (b)	
(e) Ratio of carloads in "mileage" cars to total carload traffic	Line (c) ÷ line (d)	

• If respondent's experience indicates that the predominant movement of the classes of traffic is in equipment other than that indicated, the classes shown herein should be revised accordingly.

18/ Where 10 percent or less of the equipment used in handling l.c.l. traffic, i.e., l.c.l. cars originated and terminated, consists of cars rented on a mileage basis (refrigerator cars) insert the figure of zero on line 24, columns (14) and (18). Where the mileage cars constitute more than 10 percent of the l.c.l. cars originated and terminated, estimate on the best basis available the percent that such mileage cars constitute of the total l.c.l. cars. Insert such percentage in line 24, columns (14) and (18).

Rail Terminal Form F, 5-42

Computation of the Unit Costs Per Car Handled by Zones

_____ Railway
Schedule B
Sheet 1 of 1

Line No.	Account No. (1)	Expense groups (2)	Source of expenses (3)	Expenses for test period 1/ (4)	Apportionment factors (see Introductory Remark No. 4) (5)	Expenses separated between zones 2/ Zone No. (6)	Zone No. (7)	Zone No. (8)	Zone No. (9)	Zone No. (10)	Zone No. (11)	Zone No. (12)	Zone No. (13)	Zone No. (14)	Zone No. (15)	Line No.
		Maintenance of Way and Structures														
1	202-03	Roadway maintenance - Yd. Swg. Trks.	3/		Track miles											1
2	204-05	Underground power tubes - Yd. swg. trks.	4/		4/											2
3	206-07	Tunnels and subways - Yd. swg. trks.	4/		4/											3
4	208-09	Bridges, trestles, and culverts - Yd. swg. trks.	4/		4/											4
5	210-11	Elevated structures - Yd. swg. trks.	4/		4/											5
6	212-13	Ties - Yd. swg. trks.	3/		Track miles											6
7	214-15	Rails - Yd. swg. trks.	3/		Track miles											7
8	216-17	Other track material - Yd. swg. trks.	3/		Track miles											8
9	218-19	Ballast - Yd. swg. trks.	3/		Track miles											9
10	220	Track laying and surfacing - Yd. swg. trks.	3/		Track miles											10
11	221-22	Fences, showsheds, and signs - Yd. swg. trks.	3/		Track miles											11
12	229-30	Roadway buildings	5/		Track miles											12
13	241-42	Wharves and docks	6/		Direct											13
14	243-44	Coal and ore wharves	6/		Direct											14
15	269-73	Roadway machines, etc.	5/		Track miles											15
16	278	Maintenance of joint tracks, yards, etc. -Dr.	7/		Track miles											16
17	279	Maintenance of joint tracks, yards, etc. -Cr.	7/		Track miles											17
18	281	Right-of-way expenses	5/		Track miles											18
19		Total, excl. M. of W. and S. overhead (lines 1-18) ..			-											19
20		Total, incl. M. of W. and S. overhead	8/		-											20
21		Payroll taxes	9/		Line 20											21
22		Yard freight portion - M. of W. and S.	10/	xxx	-											22
		Maintenance of Equipment														
23		Work equipment, incl. M. of E. overhead and taxes ...	11/		Track miles											23
24		Floating equipment, incl. M of E. ovhd. & pay. taxes	12/		Direct											24
25		Yard freight portion - Maintenance of Equipment	13/	xxx	-											25
		Transportation - Rail Line (Yard Freight Portion)														
26	378	Yard conductors and brakemen - Car riders	14/		Direct											26
27	379	Yard switch and signal tenders:														27
		(a) Switch tenders, towermen, etc.	15/		Direct											28
28		Signals and interlockers	16/		Direct											29
29	405	Crossing protection	17/		Direct											30
30	406	Drawbridge operation	17/		Direct											31
31	408	Operating floating equipment	18/		Direct											32
32		Total, excl. transportation overhead (lines 26-31) ..			-											33
33		Total, incl. transportation overhead	19/		-											34
34		Payroll taxes	20/		Line 33											35
35		Total - Transportation (lines 33-34)			-											
		Total Operating Expenses, Rents, and Taxes														36
36		Total operating expenses (lines 22, 25, 35)			-											37
37		General overhead	21/		Line 36											38
38		Ad valorem taxes	22/		Direct											39
39		Total (lines 36-38)			-											
		Return on Value														40
40		Recommended value	23/		Direct											41
41		Return at _____ percent on zoned property	24/		Direct											42
42		Yard freight portion	25/	xxx	Direct											43
43		Total cost incl. return (lines 39 and 42)			-											44
44		Cost per car (loaded or empty) excl. return	27/		-											45
45		Cost per car (loaded or empty) incl. return	28/		-											46
		Statistical Data														47
46		Yard switching track miles	26/		Direct											48
47		Main line track miles	26/		Direct											
48		Total track miles (lines 46 and 47)			-											

(See reverse side for footnotes)

1/ The test period refers to that period for which an engine time study is made. Such study, exclusive of any training period, should consist of not less than one full week of seven days. Longer studies should consist of additional seven-day periods. If the expenses, the sources of which are shown in column (3), are compiled on an annual basis, such expenses, except where otherwise noted, should be equated to the test period in the relation that the number of days in the test period bears to the number of days in the annual period (i.e., for seven-day study, relationship is 7/365). The expenses treated on a zone basis should cover only those zones which are pertinent to the study. See columns (6) to (15).

2/ Insert in columns (6) to (15) the required data for each zone covered by the study. Use as many zones as are necessary to develop costs for each element of switching pertinent to the study. Insert the zone number at the head of each column. Use as many sheets of Schedule B, sheet 1, as are required to provide for all zones. Where the expenses are accumulated for the terminal as a whole and apportioned to zones on the track-mile basis, use column (15) of the last sheet of Schedule B, sheet 1, to show the remaining expenses in zones which are not pertinent to the study, designated as "All other".

3/ Expenses should be directly computed for the terminal under study from current records or special studies made from time slips, material requisitions, etc. Where the expenses for the terminal under study cannot be directly assigned, compute on the basis of the system average cost per mile for yard switching tracks. Annual Report, Schedule 320, column (h), divided by the miles of yard switching tracks actually maintained from Schedule 411, column (j). Multiply such system average cost per mile for yard switching tracks by the total miles of trackage in the terminal under study from line 48, column (4). Where a zone includes main line running tracks, multiply the mileage of such trackage by the average cost per mile developed for the yard switching tracks at the terminal under review. Switching operations over main line trackage are charged only with that standard of maintenance customarily maintained on yard switching tracks.

4/ Where the expenses are directly assigned for the terminal under study, the maintenance cost for underground power tubes, tunnels, bridges, or elevated structures should be directly assigned to the zone or zones in which the facilities are located. Where the expenses are apportioned on a system basis to the terminal under study the maintenance and depreciation on major structures should be computed by a special study and assigned to the zones in which facilities are located. Exclude the maintenance and depreciation on all such major structures for system as a whole and distribute the remainder to terminal under study on a track-mile basis.

5/ If expenses for the terminal under study are not available, compute by multiplying the system expenses for Accounts 229-30 (Roadway buildings), Accounts 269-73 (Roadway machines, etc.), and Account 281 (Right-of-way expense), Annual Report, Schedule 320, column (h) by the _____ ratio of the terminal expenses appearing in Schedule B, sheet 1, column (4), lines 1 to 11, inclusive, to the system maintenance of way expenses appearing in the Annual Report, Schedule 320, Accounts 202-22, inclusive, column (h).

6/ Base on special study.

7/ See Introductory Remark No. 5.

8/ Line 19 x (1.0 + _____ ratio). Compute ratio as follows:

Line No.	Item (1)	Source (2)	Amount (3)
(a)	M. of W. & S. overheads	A.R. Sch. 320, col. (h), sum of Accts. 201, 274-77, incl.	
(b)	Total M. of W. & S., excluding overheads	A.R. Sch. 320, col. (h), total M. of W. & S. expenses minus sum of Accts. 201, 227-28 (General office portion - freight and passenger), 247-48, 265-66, 274-77, 278-79	
(c)	Ratio of M. of W. & S. overhead to total M. of W. & S., excluding overheads	Line (a) ÷ line (b)	

9/ Insert payroll taxes applicable to the accounts included in line 20. Compute by multiplying the labor portion of these accounts by the tax rate. However, if the labor portion of the individual accounts is not available, compute by multiplying line 20 by the ratio of the system maintenance of way payroll taxes to the system maintenance of way expenses. Compute this ratio as follows: Payroll taxes chargeable to maintenance of way and structures (freight and passenger) divided by total maintenance of way and structures expenses from Annual Report, Schedule 320, line 112, column (h), _____ ratio.

10/ Multiply the sum of line 20 plus line 21 by the ratio of the yard freight equated cars to the total equated cars developed for each zone in Form 6, column (18). The purpose is to separate the yard freight expense from those expenses chargeable to road service and yard passenger service.

11/ Compute by multiplying the total expenses for work equipment from Schedule A, sheet 1, line 27, column (13) by _____ ratio. Compute this ratio as follows: Annual Report, Schedule 320, Account 326, column (h) ÷ column (c). Multiply the resulting system expenses for work equipment (including overhead and taxes) by the ratio from footnote 5, hereto.

12/ If the maintenance of floating equipment is pertinent to the study, develop by special study the total maintenance and depreciation (including maintenance of equipment overheads) of the particular equipment used (freight and passenger portion). For overhead items see treatment in Schedule A, sheet 1, column (14), lines 1-3, 9, 12, 13, and 17-19. Include payroll taxes. Equate the annual cost to the test period on the basis of the relation of the active vessel hours during the test period to the active vessel hours during the annual period or periods for which the maintenance is computed. It is assumed that a separate zone will be set up to cover water transfer. Retain working papers.

13/ Multiply the sum of lines 23 and 24 by the ratio of the yard freight equated cars to the total equated cars developed for each zone in Form 6, column (18).

14/ The purpose of this line is to permit the direct assignment of hump riders and similar classes of employees over and above the normal engine crew to that type of work in which these employees are engaged. For example, as many as 5 to 75 car riders at large classification yards may be working with a single locomotive. The expense of these men should be assigned to the class of work in which engaged and not distributed on a locomotive-minute basis over all elements of switching. Develop from payroll records the compensation for the car riders over and above the normal sized yard locomotive crew. Insert the compensation for such employees for test period in Schedule B, sheet 1, line 26. Assign the remaining expense for yard conductors and brakemen to Schedule C, line 13.

15/ If the terminal under study employs a large number of switch signal tenders engaged in the classification yards, separate the charges to Account 379 for the test period between (a) the men engaged in throwing switches, such as switch tenders, towermen, etc., and (b) lamp lighters, lamp cleaners, etc. Insert group (a) expenses in this schedule. Insert group (b) expenses in Schedule C, line 14, for subsequent distribution on an engine-minute basis. The expense for towermen at an interlocking plant shown on Schedule B, sheet 1, should include only the yard freight portion of the expense based on the ratio of the yard freight locomotive movements to the total locomotive movements through the interlocking plant. See Form 8, line 15, column (7) for data covering each interlocking plant.

If the above treatment of Account 379 is not followed, assign the total charges in Schedule C, line 14, for apportionment on the basis of yard locomotive hours. Leave Schedule B, sheet 1, line 27, blank.

NOTE: The purpose of this separation is to permit the direct assignment of switch tenders, towermen, etc., to classification work in those instances where a large number of switch tenders are employed for the operation of switches in classification yards.

16/ Develop by special study the maintenance and operation of interlocking plants (see Accounts 249-50 and Account 404) which are used jointly in yard and road service. Insert in column (4) that portion of the expenses equated to the test period which are chargeable to yard freight operation. Compute by multiplying the total expenses for the test period by the ratio of the yard freight locomotive movements to the total locomotive movements through the interlocking plant. See Form 8, line 15, column (7) for ratio. Data should be compiled separately for each interlocking plant. Follow same procedure for substantial signal installations jointly used in road and yard service, the expenses for which are not included in Account 379.

17/ Base on special study. Compute the yard freight portion of the total expense for the test period by multiplying such total expenses by the ratio of the yard freight locomotive movements to the total locomotive movements operated through such facilities on each zone. See Form 8, line 15, column (7), for the ratio. Data should be compiled separately for each facility.

18/ Base on special study. Show facility as a separate zone. Insert in column (4) the yard freight portion computed by multiplying the total expense for the test period by the ratio of the yard freight equated cars handled to the total equated cars handled. See Form 6, column (18). Retain working papers.

19/ Line 32 x (1.0 + _____ ratio). Compute as follows:

Line No.	Item (1)	Source (2)	Amount (3)
(a)	Transportation - Rail line overheads ..	A.R. Sch. 320, col. (s), sum of Accts. 371, 410, 411, 414, and 420	
(b)	Total Transportation - Rail line expenses, excluding overheads	A.R. Sch. 320, col. (s), total Transportation - Rail line expenses minus the sum of Accts. 371, 374, 407, 410, 411, 414, 418, 420, 390-91, and 412-13	
(c)	Ratio of Transportation - Rail line overheads to total Transportation - Rail line expenses, excl. overheads .	Line (a) ÷ line (b)	

20/ Insert payroll taxes applicable to the accounts included in line 33. Compute by multiplying the labor portion of these accounts by the tax rate. If the labor portion of the individual accounts is not available, compute by multiplying line 33 by the ratio of the Transportation - Rail line payroll taxes to the total Transportation - Rail line expenses. Compute this ratio as follows: Payroll taxes applicable to Transportation - Rail line, freight and passenger, divided by the total Transportation - Rail line expenses from Annual Report, Schedule 320, line 213, column (h). _____ ratio.

21/ Multiply line 36 by ratio from Schedule E, line 19, column (4).

22/ Compute from a special study of respondent's tax records the ad valorem taxes on the property, the use of which is treated on a zone basis. For property treated on a zone basis see Valuation Form, Schedule C, column (5), lines 13-50. Where direct assignment of the taxes on track structures by zones cannot be made, apportion on the basis of the value (see line 40) per track mile. Compute the yard freight portion of the taxes for each zone by multiplying the total taxes for the zone, equated to the test period, by the ratio of the yard freight equated cars to the total equated cars from Form 6, column (18).

23/ See Valuation Form, Schedule C, column (5), for property value by zones, lines 13-50, recommended value to be furnished by Bureau of Valuation.

24/ Multiply the recommended value by the ratio corresponding to the designated rate of return (i.e., if 5-3/4 percent, multiply by .0575). See Introductory Page No. 3, for prescribed rate of return. Equate return on value to test period on basis of number of days in test period to the number of days in annual period.

25/ Compute the yard freight portion of return on value for each zone by multiplying line 41 by the ratio of the yard freight equated cars to the total equated cars from Form 6, column (18).

26/ Insert in columns (4) and (6)-(15) the yard switching track miles in the terminal and in each zone. Omit the tracks classified as main line tracks, passing tracks, and any other tracks not classified as yard switching tracks. Omit private tracks owned by industry and industry tracks owned by respondent which are not used by respondent as lead tracks in switching other industries. Where industry tracks are maintained at the expense of respondent, attach separate statement hereto indicating the mileage of such trackage by track zones. Where a track zone consists entirely of main line trackage, line 46, will remain blank. Fill out line 47.

27/ Line 39 divided by count of cars from Form 6, column (2), lines 1-50 as applicable.

28/ Line 43 divided by count of cars from Form 6, column (2), lines 1-50 as applicable.

Rail Terminal Form F, 5-42

Computation of the Unit Costs per Yard Locomotive Minute by Classes of Locomotives

_____ Railway
Schedule C
Sheet 1 of 1

Line No.	Account No. (1)	Expense groups (2)	Source of expenses 1/ (3)	Expenses for test period 2/ (4)	Apportionment factors (5)	Classes of locomotives 3/ Class (6)	Class (7)	Class (8)	Class (9)	All other (10)	Line No.
		Maintenance of Way and Structures (Freight and Passenger)									
1	227-28	Station and office bldgs. - yd. office port.	Special study 4/		Loco. hours						1
2	231-32	Water stations	Special study 5/		Acct. 382						2
3	233-34	Fuel stations	Special study 5/		Acct. 382						3
4	235-36	Shops and enginehouses - enginehouse portion	Special study 6/		Loco. hours						4
5	253-54	Power plants - train operation	Special study 7/		Acct. 383						5
6	257-58	Power transmission systems - train operation	Special study 8/		Accts. 383 and 384						6
7		Total, excl. maintenance of way and structures overhead	Lines 1-6		-						7
8		Total, incl. maintenance of way and structures overhead	Line 7 x(1.0 plus _____ ratio) 9/		-						8
9		Payroll taxes	See instr., Sch. B, footnote 9		Line 8						9
10		Total, incl. overhead and payroll taxes	Line 8 plus line 9		-						10
		Maintenance of Equipment									
11		Maintenance and rental - yard locomotives	10/		Direct						11
		Transportation Expenses (Common to Freight and Passenger)									
12	377	Yard masters and yard clerks	11/		Line 44						12
13	378	Yard conductors and brakemen	12/		Direct						13
14	379	Yard switch and signal tenders: (b) Batterymen, lamp lighters, etc.	13/		Line 44						14
15	380	Yard enginemen	11/		Direct						15
16	381	Yard motormen	11/		Direct						16
17	382	Yard switching fuel	14/		Direct						17
18	383	Yard switching power produced	14/		Direct						18
19	384	Yard switching power purchased	14/		Direct						19
20	385	Water for yard locomotives	15/		Acct. 382						20
21	386	Lubricants for yard locomotives	16/		Loco. hours						21
22	387	Other supplies for yard locomotives	16/		Loco. hours						22
23	388	Enginehouse expenses - Yard	17/		Loco. hours						23
24	389	Yard supplies and expenses	16/		Loco. hours						24
25	390	Operating joint yards and terminals -Dr.	18/		Direct						25
26	391	Operating joint yards and terminals -Cr.	18/		Direct						26
27	415	Clearing wrecks	Special study 19/		Loco. hours						27
28	416	Damage to property	Special study 19/		Loco. hours						28
29		Total, excl. transportation overhead	Lines 12-28, incl.		-						29
30		Total, incl. transportation overhead	Line 29 x (1.0 + _____ ratio) 20/		-						30
31		Payroll taxes	Line 30 x _____ ratio 21/		Line 30						31
32		Total, incl. overhead and payroll taxes	Lines 30 and 31		-						32
		Total Operating Expenses, Rents and Taxes (Freight and Passenger)									
33		Total operating expenses	Linee 10, 11, and 32		-						33
34		General overhead	22/		Line 33						34
35		Ad valorem taxes - other than equipment	23/		23/						35
36		Ad valorem taxes - yard locomotives	24/		24/						36
37		Yard locos. running to and from gen. shops	25/		Loco. hours						37
38		Total expenses (freight and passenger)	Lines 33 to 37		-						38
		Return on Value (Freight and Passenger)									
39		Return on value - other than equip. _____ %	26/		Direct						39
40		Return on value of locomotives _____ %	27/		Direct						40
41		Total cost, including return	Lines 38 to 40		-						41
		Cost per Prod. Engine Minute (Freight Only)									
42		Total yard loco. hrs. (freight and pass.)	28/		Direct						42
43		Prod. yd. loco. min. (freight and passenger)	29/		Direct						43
44		Cost per prod. min., excl. return (frt. & pass.)	Line 38 + line 43		-						44
45		Cost per prod. min., incl. return (frt. & pass.)	Line 41 + line 43		-						45
46		Cost per prod. min., excl. return (frt.)	30/		-						46
47		Cost per prod. min., incl. return (frt.)	30/		-						47

(For footnotes see reverse side)

1/ The sources of many of the expenses distributed on a locomotive-minute basis are special studies or analyses of respondent's payroll records, fuel consumption records, etc., for that test period for which a locomotive time study is made. However, where expenses are developed on an annual basis, the cost must be equated to the test period on the bases indicated in the footnote. Expenses are developed for the classes of locomotives used in handling the traffic under study irrespective of whether such locomotives are engaged wholly in freight service or used for both freight and passenger service. Where locomotives are assigned to switching at shops or material storehouses and the expenses chargeable to such locomotives are billed to "shop expenses" or "material store expenses", excludes the count of such yard locomotives from line 42. On the other hand, if the expenses are included in this schedule, include the corresponding locomotive hours for such engines in line 42.

2/ The test period refers to that period for which an engine time study is made. Such study, exclusive of any training period, should consist of not less than one full week of 7 days. Longer studies should consist of additional 7-day periods.

3/ The purpose of columns (6) to (10) is to permit the development of locomotive-minute costs separately by classes of locomotives. The need for this separation particularly exists where one class of locomotive is used for classification work (hump yards) while a separate type of locomotive is used for transfer or industrial work. See discussion in Introductory Remark No. 3. The classification of locomotives for purpose of columns (6), (7), (8), and (9), should agree with the classification of locomotives on Schedule A, sheet 1, lines 28 to 32. Where expenses shown in Schedule C are chargeable to classes of locomotives not included in the study, such expenses should be inserted in column (10).

4/ Study should be based on best available data covering not less than a year's period. Equate to test period on basis of ratio of days in test period to days in annual period.

5/ Compute the expenses for water and fuel stations at the terminal under study for not less than one year's period. Separate between road and yard on the basis of the annual fuel issues. Equate yard portion to the test period on the basis of the ratio of the yard locomotive hours during such test period to the total yard locomotive hours for the terminal under study. If expenses for terminal under study are not available, insert in column (4) the amount computed as follows: Annual Report, Schedule 320, column (b), Accounts 231-32 or 233-34, as applicable, multiplied by the ratio of the amount shown in Schedule C, hereto, line 17, column (4) to the total fuel consumption shown in Annual Report, Schedule 320, Accounts 382 and 384, column (b). Indicate procedure used _____

6/ Include only expenses for enginehouses. See Schedule A, sheet 1, footnote 5 for treatment of shop and storehouse portion. Compute the expenses for enginehouses for the terminal under study for not less than one year's period. Equate to test period on the basis of the number of days in the test period to the number of days in the annual period. Separate between road and yard on the basis of the number of locomotive services weighted for the extent of the service rendered each class of locomotive. Where a study of the relative service rendered each class of locomotive is not available, separate between road and yard on the basis of the number of locomotives given a full enginehouse servicing, applying a weight of 2.0 to road passenger locomotives, 1.25 to road freight locomotives, and 1.0 to yard locomotives. A full count should only be given to locomotives receiving the equivalent of a full servicing, i.e., the cycle of enginehouse servicing that is normally given a locomotive in a day's period. For example, if a road freight locomotive received approximately 50 percent of its daily enginehouse servicing at the terminal under study (the remaining 50 percent being received at another terminal), it should be given a count of 0.5 and a weight of 0.625 (0.5 x 1.25). Insert total yard portion of enginehouse expenses for test period in column (4).

7/ Compute the expense for the power plants producing power consumed by yard locomotives at the terminal under study for not less than one year's period. Separate between road and yard for the annual period on the basis of the current consumed. Equate the yard portion to the test period on the basis of yard locomotive hours during such test period to the total yard locomotive hours during the annual period. If such data are not available, equate on the basis of the ratio of the days in the test period to the days in the annual period.

8/ Compute the expense for the power transmitted at the terminal under study for not less than one year's period. Separate between road and yard for the annual period on the basis of the current consumed, as developed in tests. Equate the yard portion to the test period on the basis of the yard locomotive hours during test period to the yard locomotive hours during the annual period. If such data are not available, equate on the basis of the ratio of the days in the test period to the days in the annual period.

9/ For ratio see Schedule B, sheet 1, footnote 5.

10/ Compute for each class of locomotive by multiplying the cost per locomotive hour from Schedule A, sheet 1, column (28), by the total locomotive hours (including nonproductive) operated during the test period. Where a weighted average cost is developed for certain classes of locomotives, compute from data appearing in Schedule A, sheet 1, column (30). The amount shown in column (4) will equal the sum of the data appearing in columns (6) to (9). The costs appearing in column (4) need only include the costs for those locomotives or classes of locomotives pertinent to the study. Column (10) may be left blank.

11/ Analysis of payrolls during test period. If the work of certain of the clerks is peculiar to freight switching, such as interchange clerks, yard checkers, etc., eliminate the compensation for such clerks from line 12 which will then include only those expenses common to both freight and passenger work. The expenses so deducted should be inserted in footnote 30, line (b) for subsequent distribution on the basis of freight locomotive hours.

12/ Analysis of payrolls during test period. Include in line 13 the expenses for the normal size crew; i.e., conductor and two or three brakemen. Added employees in excess of this normal crew assigned to hump yard engines should be treated as provided for in Schedule B, sheet 1, footnote 14.

13/ Analysis of payrolls during test period. If the terminal under study employs a large number of switch and signal tenders in a classification yard, separate the charges to Account 379 between (a) the men engaged in such yard, and (b) lamp lighters, lamp cleaners, etc. Apportion group (b) on the basis of locomotive hours. See Schedule B, sheet 1, line 27, for the direct assignment of group (a) expenses by zones. (Note: The purpose of this separation is to permit the direct assignment of switch and signal tenders to classification yards in those instances where large numbers of switch tenders are employed for the manual operation of switches in classification yards.)

14/ Based on average fuel consumption or power consumed during test period. If data not available, base on system average consumption per yard locomotive hour for class of locomotive under study multiplied by the locomotive hours for test period from line 42.

15/ Analysis of water issues to steam locomotives under study. If data not available, base on system average consumption per yard locomotive hour (steam) multiplied by steam locomotive hours for test period, from line 42.

16/ Compute as follows: Ascertain the expenses for the terminal under study, reduced to an average per locomotive hour and multiplied by the number of locomotive hours during the test period. If data not available for terminal under study, compute by multiplying locomotive hours from line 42, columns (6) to (10) by system average per yard locomotive hour.

17/ Compute the expenses of the terminal under study for the annual period. Equate to the test period on the basis of the number of days in test period to the number of days in annual period. Separate between road and yard for test period on basis of number of locomotive services weighted for the extent of the service rendered each class of locomotive (see instructions, footnote 6).

18/ See Introductory Remark No. 5.

19/ Compute from special study for an annual period at terminal under study. Equate to the test period by multiplying the annual cost per yard locomotive hour at the terminal under study by the locomotive hours for each class of locomotive for the test period shown in Schedule C, line 42. Where such direct assignment cannot be made to terminal under study, compute as follows: Multiply the amount shown in Annual Report, Schedule 320, column (b), Account 415 or 416, as applicable, by the ratio of the sum of the expenses shown in Schedule C, column (4), lines 12 to 24, inclusive, to the system total charges appearing in Annual Report, Schedule 320, column (b), Accounts 377 to 389, inclusive.

20/ Compute ratio as follows: Annual Report, Schedule 320, column (b), sum of Accounts 371, 410, 411, 414, and 420 divided by Annual Report, Schedule 320, column (b), total Transportation - Rail line expenses, minus sum of Accounts 371, 374, 407, 410, 411, 414, 413, 420, 390, 391, 412, and 413.

21/ Insert payroll taxes applicable to the accounts included in line 30. Compute by multiplying the labor portion of these accounts by the tax rates. If labor portion of the individual accounts is not available, compute by multiplying line 30 by the ratio of Transportation - Rail line payroll taxes to the total Transportation - Rail line expenses. Compute this ratio as follows: Payroll taxes applicable to Transportation - Rail line, freight and passenger, divided by the total Transportation - Rail line, Annual Report, Schedule 320, column (b).

22/ Multiply line 30 by ratio from Schedule E, line 19, column (4).

23/ Compute ad valorem taxes on property other than equipment from analysis of respondent's tax records and equate to the test period on the basis of the number of days in the test period to the number of days in the annual period. Insert amounts in column (2) below. Compute yard switching portion on basis outlined in column (3). Apportion on basis of factors shown in column (5) if data available, otherwise on basis of locomotive hours.

23/ - Continued

Line No.	Item (1)	Taxes equated to test period (2)	Apportionment between road and yard: Factor (3)	Apportionment between road and yard: Amount (4)	Factor for apportionment to classes of locomotives (5)	Classes of locomotives: Class (6)	Class (7)	Class (8)	Class (9)
(a)	Station and office bldgs. (yd. office port.)		100% yard		Loco. hours				
(b)	Water and fuel stations		See footnote 5		Acct. 382				
(c)	Enginehouses		See footnote 6		Loco. hours				
(d)	Power plants re train operation		See footnote 7		Acct. 383				
(e)	Power trans. sys. re train operation		See footnote 8		Acct. 384				
(f)	Total lines (a)-(e), for insertion in line 35, col. (4)								

24/ Compute ad valorem taxes for yard locomotives at terminal under study from analysis of respondent's tax records. Equate to test period as follows:

Line No.	Item (1)	Classes of locomotives: Class (2)	Class (3)	Class (4)	Class (5)
(a)	Annual taxes				
(b)	Total locomotive hours during annual period				
(c)	Total locomotive hours during test period				
(d)	Ratio test period hours to total annual hours (line (c) ÷ line (b))				
(e)	Taxes equated to test period (line (e) x line (d))				

25/ Develop from special study for one year's period the expenses for crew wages and fuel chargeable to yard locomotive running light under its own power between the terminal under study and shops located at other points for general shopping. Equate to the test period on the basis of the total yard locomotive hours operated during test period to the total yard locomotive hours operated at the terminal under study during the annual period.

26/ Compute the return on value of property other than equipment as follows: insert recommended value furnished by Bureau of Valuation in column (2) below. Compute amounts to be inserted in column (3) as follows: Multiply column (2) by the rate of return prescribed in Introductory Page No. 3 and equate to test period on the basis of the relationship of the number of days in the test period to the number of days in the annual period. Compute yard switching portion on basis outlined in column (4). Apportion on basis of factors shown in column (6) if data available, otherwise on basis of locomotive hours.

Line No.	Item (1)	Recommended value (2)	Return at ___% equated to test period (3)	Apportionment between road and yard: Factor (4)	Apportionment between road and yard: Amount (5)	Factor for apportionment to classes of locomotives (6)	Classes of locomotives: Class (7)	Class (8)	Class (9)	Class (10)
(a)	Station and office bldgs. (yard office portion)			100% yard		Loco. hours				
(b)	Water and fuel stations			See footnote 5		Acct. 382				
(c)	Enginehouses			See footnote 6		Loco. hours				
(d)	Power plants re train operation			See footnote 7		Acct. 383				
(e)	Power transmission systems re train operation			See footnote 8		Acct. 384				
(f)	Total lines (a)-(e), for insertion in line ___, col. (4).									

27/ Compute return on value of locomotives:

Line No.	Item (1)	Classes of locomotives: Class (2)	Class (3)	Class (4)	Class (5)
(a)	Recommended value furnished by Bureau of Valuation				
(b)	Return at _____ percent (line (e) x applicable ratio)				
(c)	Total annual locomotive hours				
(d)	Total test period locomotive hours				
(e)	Ratio test period hours to annual hours (line (d) ÷ line (c))				
(f)	Return on value for test period (line (b) x line (e))				

28/ Include in column (4) total yard locomotive hours in the terminal. Include both productive and nonproductive hours for both the locomotives included in the study and those that may not be included. Insert the total time for locomotives not embraced in the study in column (10).

29/ Insert in columns (6) to (9) the productive yard locomotive minutes accumulated for each class of locomotives from Form 7, line 43, for the productive time. Leave columns (4) and (10) of Schedule C blank.

30/ The cost per productive minute shown on lines 44 and 45 must be increased for those expenses accumulated on a zone basis which are distributable on a locomotive minute basis and for expenses for yard clerks (Account 377) which are peculiar to freight switching (see footnote 11). Compute adjustment per productive locomotive minute as shown below. Compute line 46 as follows: Line 44 + cost per locomotive minute from line (i), column (3) below. Compute line 47 as follows: Line 45 + cost from line (j), column (3) below:

Line No.	Item (1)	Source (2)	Amount (3)
(a)	Operating expenses accumulated on zone basis which are distributable on locomotive minute basis, i.e., enginehouse leads, excl. return	Sch. B, sheet 1, line 39, zone Nos. _____	
(b)	Yard clerks chargeable wholly to yard freight operation	See footnote 11	
(c)	Yard clerks - payroll taxes, transportation overheads, and general overheads	Line (b) x ___ ratio. For ratios see footnotes 20, 21 and 22	
(d)	Total, excluding return	Lines (a)-(c)	
(e)	Return on property accumulated on zone basis but distributable on locomotive-minute basis See line (a).	Sch. B, sheet 1, line 42, zone Nos. _____	
(f)	Cost including return	Lines (d) and (e)	
(g)	Total yard locomotive hours (freight service) test period	Yard records	
(h)	Productive yard locomotive minutes (freight service)	Line (g) x 60 x ratio from Form 7, line 46, col. (20)	
(i)	Adjustment per productive locomotive minute, excluding return	Line (d) ÷ line (h)	
(j)	Adjustment per productive locomotive minute, including return	Line (f) ÷ line (h)	

Rail Terminal Form F, 5-42

Computation of Unit Expenses for Station Service

_____ Railway
Schedule D
Sheet 1 of 1.

Line No.	Account No. (1)	Expense groups (2)	Source of expense (3)	Expenses for test period 1/ (4)	Apportionment factors (5)	Clerical expense 2/ Carload Class of switching (6)	Carload Class of switching (7)	Carload Class of switching (8)	Carload Class of switching (9)	Less carload (10)	All other (11)	Platform expense (12)	Line No.
		Maintenance of Way and Structures											
1	227-28	Station and office buildings - Station portion - Freight	Special study 3/		4/								1
2		Station expense, incl. M. of W. overhead	Line 1 x (1.0 + ____ ratio) 5/		Line 1								2
3		Payroll taxes	6/		Line 2								3
4		Total maintenance of way incl. overhead	Lines 2 and 3		-								4
		Transportation - Rail Line											
5	373	Station employees: (a) Platform employees	7/		Direct	xxx	xxx	xxx	xxx	xxx	xxx		5
6		(b) Other employees	8/		Time study								6
7	376	Station supplies and expenses	9/		Lines 5 and 6								7
8		Total, excl. transportation overhead	Lines 5-7, incl.		-								8
9		Total, incl. transportation overhead	Line 8 x (1.0 + ____ ratio) 10/		-								9
10		Payroll taxes	11/		Line 9								10
11		Total transportation incl. overhead	Lines 9 and 10		-								11
		Total Operating Expenses and Taxes											
12		Total operating expenses	Lines 4 and 11		-								12
13		General overhead	12/		Line 12								13
14		Ad valorem taxes	13/		Line 1								14
15		Total	Lines 12-14		-								15
		Return on Value											
16		Recommended value - Freight	14/		-	xxx	xxx	xxx	xxx	xxx	xxx	xxx	16
17		Return at ____ percent	15/		Line 1								17
18		Total cost, including return	Lines 15 and 17		-								18
19		Cost per car, excluding return	Line 15 ÷ line 21		-								19
20		Cost per car, including return	Line 18 ÷ line 21		-								20
		Statistics											
21		Cars handled	16/	xxx	-								21

(See reverse side for footnotes)

1/ The test period refers to that period for which an engine time study is made. If the expenses, the sources of which are shown in column (3), are compiled on an annual basis, such expenses, unless otherwise noted, should be equated to the test period in the relation that the number of days in the test period bears to the number of days in the annual period, i.e., for n 7-day switching study the relationship is 7/365.

2/ The purpose of the station cost analysis is to permit of the computation of the station carload clerical cost chargeable to each of the several classes of switching, i.e., carrier terminal switching, connection terminal switching, interchange switching, intermediate switching, intraterminal switching, and interterminal switching. A time study should be made for not less than 7 days at the station under study for the purpose of computing the employees' time (and compensation) chargeable to clerical services and platform. The clerical expenses should be further separated between carload, less-carload, and all other, the latter including passenger services, Western Union, dispatching, etc. The carload clerical work should be further subdivided between the several classes of switching referred to above, where such separation is desired. Where no separation by classes of switching is made, insert carload clerical service in column (6).

NOTE: The costs for l.c.l. traffic are computed on the basis of cars handled (see line 21). The conversion of l.c.l. expenses to a cost per ton will require a further analysis not provided for in this schedule.

3/ Compute from special study for representative period of not less than one year, the maintenance and depreciation for the station facilities at terminal under study. Equate to test period on the basis of the ratio of days in the test period to total calendar days in period covered by the study. If maintenance data are not available for the station under study, compute as follows: Multiply the charges shown in the Annual Report, Schedule 320, column (e), Accounts 227-28, excluding maintenance and depreciation on system general office buildings, by the ratio of the expenses shown in Schedule D, column (4), lines 5 and 6, to Account 373 shown in the Annual Report, Schedule 320, column (e).

4/ Insert in column (12) the platform (warehouse portion), based on the floor area of the warehouse to the total floor area of the station, including platform. Apportion the remaining maintenance expenses between columns (6) to (11) on the basis of line 6, columns (6) to (11). Where station maintenance and depreciation is based on system data, apportion between columns (6) to (12) on the basis of lines 5 and 6, columns (6) to (12).

5/ Compute ratio as follows: Annual Report, Schedule 320, column (e), Accounts 201 and 274-77 divided by total maintenance of way expenses, line 112, column (e), after subtracting Accounts 201, 227-28 (General office portion - freight), 247-48, 265-66, 274-77, and 278-79.

6/ Insert payroll taxes applicable to accounts included in line 2. Compute by multiplying the labor portion of these accounts by the tax rate. However, if the labor portion of the individual accounts is not available, compute by multiplying line 2 by the ratio of the system maintenance of way payroll taxes to the system maintenance of way expenses. See Schedule B, sheet 1, footnote 9, for ratio.

7/ Separate "platform" labor from "other" employees (clerical) on the basis of analysis of payroll records for test period. Include in platform employees (1) the compensation of employees engaged in loading and unloading of freight at freighthouse platforms (warehouses) including the platform foreman, platform receiving and delivery clerks, truckers, loaders, etc., and (2) compensation of employees at wharves, warehouses and grain elevators; unless otherwise instructed, assign the employees included under both (1) and (2) to column (12).

8/ Include the expense for remaining station employees for test period, after deducting platform employees (see line 5). Separate between carload and less-carload on the basis of a time study of each employee's work for a test period of not less than one week. See footnote 2, Forms for this purpose furnished by the Bureau of Statistics. If further refinement of station cost is necessary to reflect expense for station work in connection with the respective classes of switching, i.e., carrier terminal switching, interchange switching, etc., the time studies must be made accordingly. Retain working papers.

9/ Compute from special study for annual period equated to the test period on basis of the ratio of the number of days in test period to the number of days in the annual period.

10/ For ratio, see Schedule B, sheet 1, footnote 19, line (o).

11/ Insert payroll taxes applicable to the accounts included in line 9. Compute by multiplying the labor portion of these accounts by the tax rate. If the labor portion of the individual accounts is not available, compute by multiplying line 9 by the ratio of the transportation - rail line payroll taxes to the total transportation - rail line expenses. See Schedule B, sheet 1, footnote 20, for ratio.

12/ Multiply line 12 by ratio from Schedule E, line 19, column (4).

13/ Compute from special study of respondent's tax records the ad valorem taxes on the station property. Equate taxes to the test period on basis of the ratio of the number of days in test period to the number of days in the annual period.

14/ Insert recommended value furnished by Bureau of Valuation for station facilities at terminals. See Valuation Form, Schedule C, sheet 1, line 1, column (8).

15/ Multiply line 16 by the applicable ratio based on the percent return used. Equate return on value to the test period on basis of the ratio of the number of days in test period to the number of days in the annual period.

16/ For count of cars by classes of switching see Schedule F, line 51, column (21). If a separation of station clerical expenses by classes of switching is not made, then the total station carload clerical expenses must be charged solely to respondent's count of cars receiving carrier terminal switching (revenue and nonrevenue) and cars receiving intraterminal and interterminal switching service. Insert such count of cars in column (6). The resulting cost per car will be slightly overstated by the amount of the station clerical expense, if any, chargeable to cars receiving interchange switching, intermediate switching, and connection terminal switching.

Rail Terminal Form F, 5-42

Computation of Overheads, Special Services and Passenger Deficiency

Treatment of Traffic, General and Miscellaneous Overhead Expenses, and Taxes

Railway
Schedule K
Sheet 1 of 1

Line No.	Expense groups (1)	Source 1/ (2)	System freight expenses including equipment rents (3)	Traffic, general and miscellaneous overheads (4)	Line No.
1	Maintenance of equipment and equipment rents, including payroll taxes	Sch. A, sheet 1, line 27, col. (3)		xxx	1
2	Maintenance of way expenses treated as system overhead - general office buildings (freight portion), telephone and telegraph, and miscellaneous structures	Accts. 227-28 (General office portion - Freight) plus A.R. Sch. 320, col. (e), Accts. 247-48 and 265-66	xxx		2
3	Maintenance of way overhead apportioned to line 2	Line 2 x ____ ratio from Sch. B, footnote 8, line (o)	xxx		3
4	Payroll taxes chargeable to maintenance of way expenses treated as system overhead	2/	xxx		4
5	Total maintenance of way and structures, including payroll taxes, but excluding telephone and telegraph and miscellaneous structures	3/		xxx	5
6	Transportation - rail line expenses, treated as system overhead - weighing and inspection, telephone and telegraph, and loss and damage	A.R. Sch. 320, col. (e), sum of Accts. 374, 407, and 418	xxx		6
7	Transportation overhead apportioned to line 6	Line 6 x ____ ratio from Sch. B, footnote 19, line (o)	xxx		7
8	Payroll taxes chargeable to transportation expenses treated as system overhead	4/	xxx		8
9	Transportation expenses exoluding weighing and inspection, telephone and telegraph, and loss and damage	5/		xxx	9
10	Miscellaneous operations	6/		xxx	10
11	Traffic	A.R. Sch. 320, line 158, col. (e)	xxx		11
12	General	A.R. Sch. 320, line 243, col. (e)	xxx		12
13	Payroll taxes chargeable to traffic and general	7/	xxx		13
14	Joint facility rents (Accounts 508 and 541) - Net	A.R. Sch. 300-I, col. (g)	xxx		14
15	Rent of buildings and other property (Account 142) - Cr.	A.R. Sch. 310, line 36, col. (c)	xxx		15
16	Ad valorem taxes, general office buildings (freight portion), telephone and telegraph, and miscellaneous structures	8/	xxx		16
17	Other taxes - freight portion, excluding payroll and ad valorem taxes	9/			17
18	Total	Lines 1 to 17, inclusive			18
19	Ratio of traffic, general and miscellaneous overheads, to directly assigned expenses.	Line 18, col. (4), divided by col. (3)	xxx		19

Cost for Special Services by Classes of Switching 10/

Line No.	Item (5)	Source (6)	Class of switching No.____ Cost per carload or per car handled, indicate: Operating expenses (7)	Opg.exps.incl. overhead and payroll taxes (8)	Class of switching No.____ Cost per carload or per car handled, indicate: Operating expenses (9)	Opg.exps.incl. overhead and payroll taxes (10)	Class of switching No.____ Cost per carload or per car handled, indicate: Operating expenses (11)	Opg.exps.incl. overhead and payroll taxes (12)	Class of switching No.____ Cost per carload or per car handled, indicate: Operating expenses (13)	Opg.exps.incl. overhead and payroll taxes (14)	Line No.
20	Loss and damage claim payments for commodity under study	11/									20
21	Other (define) _____	Special study									21
22	Other (define) _____	Special study									22
23	Other (define) _____	Special study									23

Computation of Passenger Deficiency 12/

Line No.	Item (15)	Amount (16)	Line No.
24	Passenger service net railway operating income or deficit, A.R. Sch. 300-I, line 25, col. (j). Indicate income (+) and deficit (-)	(+) or (-)	24
25	Expenses for passenger portion of nonrevenue freight traffic 13/	(-)	25
26	Passenger portion of the adjustment for abnormal expenses 14/	(+) or (-)	26
27	Total passenger net operating income or deficit (indicate). (Sum of lines 24 to 26, signs considered.)	(+) or (-)	27
28	Ratio of operating income or deficit to total freight operating expenses, rents, and taxes. (Line 27 ÷ line 18, sum of cols. (3) and (4))		28
	Passenger Deficiencies Including Return at ____ % on Passenger Portion of the Value 15/		
29	Return on the passenger portion of the value (____ % of passenger portion of value) 16/	(-)	29
30	Total passenger net operating income or deficit, including return at ____ % (line 27 + line 29, signs considered)	(+) or (-)	30
31	Ratio of passenger operating income or deficit, after allowance for passenger portion of return to the total freight operating expenses, rents, and taxes (line 30 ÷ line 18, sum of columns (3) and (4))		31

(See reverse side for footnotes)

Footnotes for Schedule E, sheet 1

1/ The expense data from which the general overhead expenses are computed should be based upon the last available accounting year. The computations are based upon the freight portion of the expenses except where otherwise noted.

2/ Insert payroll taxes applicable to the accounts included in lines 2 and 3. Compute by multiplying the labor portion of these accounts by the tax rate. If the labor portion of the individual accounts is not available, compute by multiplying the sum of lines 2 and 3 by the ratio of the system maintenance of way payroll taxes to the system maintenance of way expenses. For ratio see Schedule B, sheet 1, footnote 9.

3/ Compute as follows: System maintenance of way and structures expenses (freight) from annual report, Schedule 320, line 112, column (e), $ _____ plus payroll taxes of $_____ applicable to such maintenance of way and structures expenses. Total equals $_____. Subtract from this total the sum of Schedule E, column (4), lines 2, 3, and 4.

4/ Insert payroll taxes applicable to the accounts included in lines 6 and 7. Compute by multiplying the labor portion of these accounts by the tax rate. If the labor portion of these accounts is not available, compute by multiplying the sum of lines 6 and 7 by the ratio of the system transportation - rail line payroll taxes to the system transportation - rail line expenses. For ratio see Schedule B, sheet 1, footnote 20.

5/ Compute as follows: System transportation - rail line expenses (freight) from annual report, Schedule 320, line 213, column (e), $ _____ plus payroll taxes of $_____ applicable to such transportation - rail line expenses. Total equals $_____. Subtract from this total the sum of Schedule E, column (4), lines 6, 7, and 8.

6/ Compute as follows: System expenses from miscellaneous operations (freight) from annual report, Schedule 320, line 226, column (e), $_____ plus payroll taxes of $_____ applicable to such miscellaneous expenses. Total equals $_____.

7/ Insert payroll taxes applicable to the accounts included in lines 11 and 12. Compute by multiplying the labor portion of these accounts by the tax rate. If the labor portion of the individual accounts is not available, compute by multiplying the sum of lines 11 and 12 by the ratio of the system payroll taxes to system operating expenses. Compute this ratio as follows: System payroll taxes from Annual Report, Schedule 350, line 50, column (e), divided by system operating expenses from Annual Report, Schedule 320, line 245, column (b), _____ ratio.

8/ Compute from a special study of respondent's tax records the ad valorem taxes on the general office buildings, telegraph and telephone lines, and miscellaneous property. Include only freight portion. Compute freight portion on basis used in separation of maintenance of way and structures expenses for these facilities.

9/ Compute as follows: Subtract from the total taxes as reported in Annual Report, Schedule 300-I, line 6, column (g), the total payroll taxes and ad valorem taxes included in this line. Insert the remaining taxes in line 17, column (4), hereto. The remaining taxes should include excise taxes, income taxes, etc. State amount of income tax included in line 17, $_____.

10/ Use lines 21 to 23 to develop the cost of special services not otherwise provided for, such as , car inspection at interchange points chargeable to Account 402. Copy of the working papers pertaining to such study should be filed as a supplement to Schedule E. Insert the operating expenses in columns (7), (9), (11), and (13). Insert such operating expenses increased by overheads and payroll taxes in columns (8), (10), (12), and (14). Compute the latter as follows:

(a) Multiply the operating expenses by the transportation ratios for overheads and for payroll taxes. See Schedule B, sheet 1, footnotes 19 and 20, for respective ratios.

(b) Multiply the operating expenses increased for transportation overheads and payroll taxes by the ratio for general overheads. See Schedule E, line 19, column (4), for ratio for general overheads.

11/ The formula provides for the inclusion of loss and damage expenses as an overhead. This treatment distributes the loss and damage expense between line-haul and terminal on the basis of the separation of the system operating expenses between line and terminal. It is assumed that the traffic under study has the same loss and damage expense as that experienced by all traffic handled by respondent.

Where a particular commodity is under study and the loss and damage expense varies substantially from the average of all commodities, such loss and damage chargeable to such commodity in the terminal under study can only be developed from special tests; or reference can be made to the loss and damage expense per car for that class of commodity as reported to the Freight Claim Division of the Association of American Railroads. The figure developed under this latter procedure would include the total loss and damage for an average length haul embracing both that incurred in the line-haul and that incurred at origin or destination. Such figure may be shown for reference purposes in line 20. It should not be carried forward to summary schedules.

12/ Compute passenger deficiency only when so instructed in Introductory Page No. 3. The procedure provided for in Schedule E hereto is applicable only to line-haul carriers. This formula does not provide for the computation of passenger deficiency for switching and terminal companies for the reason that the passenger service rendered by such companies is for the account of line-haul carriers and any deficiencies incurred should be charged against such line-haul carriers.

13/ Compute passenger portion of nonrevenue freight expenses as follows:

Line No.	Item (1)	Source (2)	Amount (3)
(a)	Nonrevenue freight net ton-miles	A.R. Sch. 531, item 81	
(b)	Ratio of passenger operating expenses to total freight and passenger operating expenses	A.R. Sch. 300-I, line 4, col. (j) ÷ (cols. (g) + (j))	
(c)	Passenger portion of nonrevenue net ton-miles	Line (a) x line (b)	
(d)	Cost per net ton-mile (revenue and nonrevenue)	A.R. Sch.531, item 91, col.(b) ÷ item 63, col. (b)	
(e)	Passenger portion of expenses for nonrevenue freight traffic	Line (c) x line (d)	

14/ Compute passenger portion of adjustment for abnormal expenses as follows:

Line No.	Item (1)	Source (2)	Amount (3)
(a)	Ratio of adjustment for abnormal expenses to system total operating expenses, rents and taxes	Summary Schedule, sheet 2, footnote 10, line (g)	
(b)	Passenger operating expenses, rents and taxes	A.R. Sch.300-I, sum of lines 4, 6, and 24, col. (j)	
(c)	Passenger portion of the adjustments.	Line (a) x line (b)	

If the adjustment represents an increase in respondent's expenses, indicate as (-) in column (16); if the adjustment represents a decrease, indicate as (+).

15/ Insert rate of return specified in Introductory Page No. 3.

16/ Compute passenger portion of value as follows: Recommended value of the property of carrier owned and used for common carrier service (furnished by Bureau of Valuation) - $_____. Multiply this value by the ratio of the passenger service operating expenses to the total operating expenses, i.e., Annual Report, Schedule 320, line 245, column (h) + column (b). Passenger portion of value = $_____. Multiply this value by the appropriate ratio depending upon the rate of return prescribed in Introductory Page No. 3.

Rail Switching Form F, 5-42

_____ Railway
Schedule F

Class of switching _____ Sheet of sheets

Summary of Costs for Each Class of Switching Including Expenses Distributed on a Locomotive-minute Basis and Expenses Distributed on a Zone Basis 1/

Line No.	Expenses distributed on a zone basis 2/						Expenses distributed on a locomotive-minute basis 3/									Grand total		Line No.
	Zone No. (1)	Cars (Loaded or empty) (2)	Cost per car (Loaded or empty): Operating expenses, rents, and taxes (3)	Cost per car (Loaded or empty): Operating expenses, rents, taxes, and return (4)	Total expenses: Operating expenses, rents, and taxes (Cols. (2) x (3)) (5)	Total expenses: Operating expenses, rents, taxes, and return (Cols. (2) x (4)) (6)	Element No. (7)	Cars (Loaded or empty) (8)	Minutes per car (9)	Total minutes (Cols. (8) x (9)) (10)	Class of yard locomotive (11)	Cost per productive locomotive minute: Operating expenses, rents, and taxes (12)	Cost per productive locomotive minute: Operating expenses rents, taxes, and return (13)	Total expenses: Operating expenses, rents, and taxes (Cols. (10) x (12)) (14)	Total expenses: Operating expenses, rents, taxes, and return (Cols. (10) x (13)) (15)	Operating expenses, rents, and taxes (Cols. (5) + (14)) (16)	Operating expenses, rents, taxes, and return (Cols. (6) + (15)) (17)	
1																		1
2																		2
3																		3
4																		4
5																		5
6																		6
7																		7
8																		8
9																		9
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49																		49

Computation of Cost per Car for Switching Service

Line No.	Item (18)	Source (19)	Total cars: Basis of count 4/ (20)	Total cars: Amount (21)	Total cost: Operating expenses, rents, and taxes (22)	Total cost: Operating expenses, rents, taxes, and return (23)	Line No.
50	Total expenses	Lines 1-49, cols. (16) or (17), as applicable					50
51	Total cars	5/					51
52	Cost per car	Line 50 ÷ line 51					52

(See reverse side for footnotes)

Footnotes for Schedule F, sheet 1

1/ The purpose of this schedule is to accumulate the switching costs, excluding freight-train car costs, for (1) each class of switching under study and (2) nonrevenue traffic (company material) separated between cars switched to and from fuel and water stations and all other nonrevenue traffic. Use a separate sheet for each class of switching and a separate sheet for nonrevenue fuel cars and a separate sheet for all other nonrevenue cars. Thus, for example, if the purpose of the study is to determine the cost for (1) carrier terminal switching, (2) connection terminal switching, (3) interchange switching, etc., use a separate sheet for each. The expenses for each class of switching are totalled on line 50 and divided by the total cars handled (line 51) to obtain the average cost per car (line 52). The count of cars will depend upon the class of switching under study (see footnote 5).

2/ Insert in column (1) the numbers of the zones through which cars were handled for the class of switching shown in the upper right-hand corner of this sheet. Insert in column (2) the number of cars (loaded or empty) for the class of switching under study which traversed the zone indicated in column (1). For source see Form 5, column (4), lines 1-50, as applicable. Insert in columns (3) and (4) the cost per car (loaded or empty) for each zone number shown in column (1). See Schedule B, sheet 1, line 44 or 45, columns (6) to (15), as applicable.

3/ Insert in column (7) the numbers of the elements of switching given to the cars receiving the class of switching shown in the upper right-hand corner of this sheet. Insert in column (8) the number of cars (loaded or empty) of the class of switching under study which received the element of switching indicated in column (7). For the count of cars handled by element numbers see Form 5, column (8), lines 1-50, as applicable. Insert in column (9) the minutes per car for each element of switching from the final summary of Form 7, column (22). Where the costs per locomotive minute are separated by classes of locomotives in Schedule C, indicate in column (11) the class of locomotive used in rendering the respective elements of switching listed in column (7). The classes of locomotives must agree with the segregation of the costs by classes of locomotives in Schedule C. Insert in columns (12) and (13) the cost per productive locomotive minute for the class of yard locomotive shown in column (11). See Schedule C, columns (6) to (9), line 46 or 47, as applicable. It is assumed that a separation of the expenses by classes of locomotives will only be made where certain classes of locomotives are assigned almost exclusively to given elements of switching. However, if the expenses are separated by classes of locomotives and two classes of locomotives are used for a given element of switching, identify both classes of locomotives in column (11). Insert the weighted average cost per productive locomotive minute in columns (12) and (13), weighted for the productive minutes consumed by each class of locomotive in each element of switching, as developed from Form 7.

4/ Indicate the basis of count, i.e., whether total cars (loaded or empty), designated as "Tot. cars", or loaded cars only, designated as "Ld. cars".

5/ The count of cars will depend upon the class of switching under study. For intertrain, intratrain, interchange, and intermediate switching, the count may be based upon the total cars handled (loaded or empty). For carrier terminal switching and connection terminal switching the count should be based on the loaded cars handled. The basis for the count of cars will depend primarily on whether the rates or charges under study are based on the total cars handled (loaded or empty) or are based on the loaded cars only.

For source of car count, see Form 5 by classes of switching. Give one count to each car receiving the tour (cycle of services) embraced in the class of switching under study. Part of this tour (cycle of services) may occur prior to and/or subsequent to the test period, as indicated in Form 5, columns (3) and (7). On intertrain, intratrain, interchange, and intermediate switching where road train to road train movement is involved, the tour (cycle of services) will consist of the one-way movement only through the terminal. For carrier terminal switching, connection terminal switching, interterminal, or intraterminal switching, the tour (cycle of services) will include both the loaded movement plus the related empty movement of the car. For definition of a complete tour of a car, see Form 4, footnote 1(g).

Computation of the Cost of Handling Nonrevenue Traffic (Company Material) by Classes of Switching 1/

Rail Terminal Form F, 5-42

Railway
Schedule G
Sheet 1 of 1

Line No.	Item	Source	Carloads of nonrevenue traffic (company material) terminated at yard under study: Nonrevenue cars switched to or from fuel and water stations — Units (3)	Operating expenses, rents and taxes (4)	Operating expenses, rents, taxes and return (5)	Other nonrevenue carloads 2/ (Designate) — Units (6)	Operating expenses, rents and taxes (7)	Operating expenses, rents, taxes and return (8)	Total cost nonrevenue cars — Operating expenses, rents and taxes (col. (4) + col. (7)) (9)	Operating expenses rents, taxes and return (col. (5) + col. (8)) (10)	Line No.
					Expenses incurred at terminal under study						
1	Number of carloads	Form 5, line 3, col. (11)		xxx	xxx		xxx	xxx	xxx	xxx	1
2	Switching services	Sch. F, line 50, cols. (22) and (23)	xxx			xxx					2
3	Station services - clerical	3/	xxx			xxx					3
	Frt.train cars-"other than mileage":										
4	- mileage portion exp.	4/	xxx			xxx					4
5	- time portion exp.	5/	xxx			xxx					5
6	- lding.& unlding.por.exp.	6/	xxx			xxx					6
7	Total cost terminal under study	Lines 1-6, inc.									7
					Expenses incurred in line haul and at other terminals 7/						
8	Average length of haul nonrev. traffic	8/		xxx	xxx		xxx	xxx	xxx	xxx	8
9	Gross ton-miles per nonrev. carload	9/		xxx	xxx		xxx	xxx	xxx	xxx	9
10	Gross ton-mile cost	Line 9 x ___ sys.avg.cost per g.t.m. 10/	xxx			xxx			xxx	xxx	10
11	Terminal cost	11/	xxx			xxx			xxx	xxx	11
12	Total	Line 10 + line 11	xxx			xxx			xxx	xxx	12
13	Aggregate cost	Line 1 x line 12	xxx			xxx					13
14	Total cost nonrev.traf. incl. destn.	Line 7 + line 13	xxx			xxx					14
15	Adjustment for abnormal expenses	Line 14 x ___ ratio 12/	xxx			xxx					15
16	Total adjusted expenses	Line 14 + line 15	xxx			xxx					16
17	Yard portion of nonrevenue traffic	Line 16 x ratio 13/	xxx			xxx					17
18	Cost per prod. loco. min. excl. min. hdling nonrev.carloads shown on line 1	14/	xxx			xxx					18

Distribution of the Cost of Handling Nonrevenue Traffic by Classes of Switching

Line No.	Item	Class of switching (Designate) — Units (12)	Oper. exp., rents and taxes (13)	Oper. exp., rents, taxes & ret. (14)	Class of switching (Designate) — Units (15)	Oper. exp., rents and taxes (16)	Oper. exp., rents, taxes & ret. (17)	Class of switching (Designate) — Units (18)	Oper. exp., rents and taxes (19)	Oper. exp., rents, taxes & ret. (20)	Class of switching (Designate) — Units (21)	Oper. exp., rents and taxes (22)	Oper. exp., rents, taxes & ret. (23)	Class of switching (Designate) — Units (24)	Oper. exp., rents and taxes (25)	Oper. exp., rents, taxes & ret. (26)	Class of switching (Designate) — Units (27)	Oper. exp., rents and taxes (28)	Oper. exp., rents, taxes & ret. (29)	Line No.
19	Prod. loco. minutes per car 15/		xxx	xxx		xxx	xxx		xxx	xxx		xxx	xxx		xxx	xxx		xxx	xxx	19
20	Cost per car by classes of swtchg. for hdling. of nonrev. traf. (line 18, col.(9) or (10) as applicable x line 19)	xxx			xxx			xxx			xxx			xxx			xxx			20

(See reverse side for footnotes)

1/ The purpose of this schedule is to compute the expenses of handling that nonrevenue traffic (company material) consumed at the terminal under study. Exclude all other nonrevenue traffic which is switched at the terminal under study for road movement beyond. The expense of switching company fuel is treated separately to permit of the distribution of such expense between road and yard on the basis of fuel issues. The expense for switching other nonrevenue traffic (company material) if significant in amount, is apportioned between yard under study and all other carrier operations on the basis of the use of such company material at the terminal under study compared with that which is redistributed and consumed elsewhere. The costs of switching rip tracks, material storehouses and shops apart from that required for the handling of nonrevenue traffic (company material) should not be included in this schedule.

The expenses of handling all nonrevenue traffic chargeable to the terminal under study are distributed on a productive engine minute basis.

2/ Include those carload movements of nonrevenue traffic (company material) which are wholly consumed at the terminal under study or which are moved to storehouses at the yard under study for subsequent redistribution of the material partly to the terminal under study and partly to other points on the carrier's system. This will include engine sand, material stores, ties, ballast, other track material, etc. Where the movements are negligible, they may be omitted from consideration.

3/ Cost per consignment from Schedule D, columns (6) to (9), as applicable, lines 19 and 20, multiplied by the number of carloads from line 1, column (3) or (6), as applicable.

4/ Compute as follows for nonrevenue fuel traffic and other nonrevenue traffic, respectively, lines (a) and (b) below. The amounts inserted in column (5) will be identical with that computed for column (4). The amount computed for column (8) will be identical with that computed for column (7) (return is treated on a car-day basis).

Line No.	Item (1)	Equated car-miles* (2)	Total mileage cost (col.(2) x Sch. A, sheet 1, line 36, col. (33)) (3)
(a)	Nonrevenue cars switched to or from fuel and water stations		
(b)	Other nonrevenue cars		

* From Form 5, line 6, column (11), multiplied by 2.

5/ Compute amount for column (4) as follows: Multiply the car days for nonrevenue fuel traffic from Form 5, line 7, column (11) by the cost per car day from Schedule A, sheet 1, line 37, column (35) plus column (36).

Compute amount for column (5) as follows: Multiply the car days for nonrevenue fuel traffic from Form 5, line 7, column (11) by the cost per car day from Schedule A, sheet 1, line 37, column (37). Follow same procedure for columns (7) and (8), other nonrevenue traffic.

6/ Number of carloads unloaded from line 1, column (3) or (6), as applicable, multiplied by the loading and unloading cost per car from Schedule A, sheet 1, line 38, column (39).

7/ The computation of the line-haul costs and the costs at other terminals in the handling of nonrevenue traffic is based on system average unit costs under the assumption that the amount of expenses involved does not warrant further refinement. Switching and terminal companies having no line-haul cost should omit lines 8 to 13.

The gross ton-mile cost is developed for the line-haul movement and the terminal cost is based on equated cars handled for the origin switching cost or switching at point of receipt from connecting line.

The operating expenses, rents, and taxes should be first developed for columns (4) and (7). The costs for columns (5) and (8) should be computed by multiplying the figures in columns (4) and (7), respectively, by _____ ratio.

Compute ratio as follows:

Line No.	Item (1)	Source (2)	Amount (3)
(a)	System operating expenses, rents, and taxes	Sch. 300-I, col. (b), sum of lines 4, 6, and 24	
(b)	Recommended value for the system property owned and used for common carrier purposes	Bureau of Valuation	
(c)	Return at _____ %	Line (b) x _____ ratio	
(d)	Total system operating expenses, rents and taxes, incl. return	Line (a) + line (c)	
(e)	Ratio system operating expenses, rents and taxes incl. return to system operating expenses, rents and taxes.	Line (d) + line (a)	

8/ Compute from a special study the average length of haul on the nonrevenue carload traffic terminated at the point under study.

9/ Compute from a special study giving consideration to the average length of haul, the average tare weight of the equipment, the average weight of the net load, and the percent empty return of the equipment.

10/ Compute system average cost per gross ton-mile, revenue and nonrevenue, for running service, as follows:

Line No.	Item (1)	Source (2)	Amount (3)
(a)	System operating expenses, rents and taxes	A.R. Sch. 300-I, col. (b), sum of lines 4, 6, and 24	
(b)	Estimated operating expenses - running	A.R. Sch.320, Accts. 202-22, running tracks; Accts. 308 and 311, other locos.; Acots. 314, 372, 392-402	
(c)	Estimated operating expenses - yard and station	A.R. Sch. 320, Accts. 202-22, yd. and way swtg. tracks; 227-28, 308 and 311, yd. locos., 373, and 377-389	
(d)	Estimated operating expenses, rents and taxes, running portion	Line (a) x _____ ratio. Ratio equals line (b) + sum of lines (b) and (c)	
(e)	Freight gross ton-miles, revenue and nonrevenue	A.R. Sch. 531, col. (b), sum of items 61 and 62 x 1000	
(f)	Cost per g.t.m., running expenses.	Line (d) ÷ line (e)	

11/ Insert switching cost and station clerical cost at point of origin where necessary data are available from past studies; otherwise, compute approximate total terminal cost, station and switching, on equated car basis, as follows:

Line No.	Item (1)	Source (2)	Amount (3)
(a)	Estimated operating expenses, rents and taxes - term. port.	Footnote 10, line (a) minus line (d)	
(b)	Equated care	Sch.541, Class 850, sum of cols. (d) and (f) plus twice col.(b); the total being given a weight of 1.0; plus the sum of cols.(d) and (f) plus twice col.(h); the total being given a weight of 0.37. Increase this count for l.c.l. cars, Class 710, assuming a weight of 5 tons per car where an average net load is not known. Follow same procedure as was used for carload traffic, Class 850. The weights of 1.0 and 0.37 are based on studies made in Docket 28300. (See Ex. 2, page 103)	
(c)	Terminal cost per equated car - originated on line	Line (a) + line (b)	
(d)	Terminal cost per equated car - received from connection	Line (c) x .37	

If traffic is originated on respondent's lines, insert in line 11 the cost shown in line (c) hereto. If traffic is received from connecting line, insert in line 11 the cost shown in line (d) hereto.

12/ For ratio see Summary Schedule, sheet 2, footnote 10, line (g).

13/ Compute amount to be inserted in line 17, columns (4) and (5), by multiplying the amount shown in line 16 by _____ ratio. Compute ratio as follows: Fuel issues to yard locomotives at terminal under study during last annual accounting period divided by total fuel issues to road and yard locomotives for the same period.

Compute amount to be inserted in line 17, columns (7) and (8), by multiplying the amount shown in line 16 by _____ ratio. Compute ratio as follows: Number of cars of other nonrevenue traffic (engine sand, ties, rails, etc.) used in the terminal under study during last annual accounting period divided by total number of cars of such nonrevenue traffic destined to the terminal for the same period.

14/ Line 17 divided by the total productive locomotive minutes from line (e) hereto. Compute productive locomotive minutes as follows:

Line No.	Item (1)	Source (2)	Amount (3)
(a)	Total prod. loco. min. handling rev. and nonrev. traffic	Form 7, line 49, col.(20)	
(b)	Prod. loco. min. consumed in handling nonrev. cars of fuel	Sch.F (nonrevenue fuel), col. (10), lines 1-49	
(c)	Prod. loco. min. consumed in handling other nonrev. cars	Sch.F (nonrevenue, other), col.(10), lines 1-49	
(d)	Total prod. loco. min. consumed in handling nonrev. traffic	Line (b) + line (c)	
(e)	Total prod. loco. min. excl. eng. min. required to handle the nonrev. traffic shown on Sch. C, line 1, col. (3) + col. (6)	Line (a) minus line (d)	

Note: The procedure followed distributes the cost of switching nonrevenue traffic chargeable to the terminal under study (line 1, cols. (3) and (6)) over the remaining revenue and nonrev. traffic.

15/ Insert productive minutes per car separately for each class of switching. Compute as follows: Divide total minutes from Sch. F, col. (10), sum of lines 1-49, incl., by total cars from line 51, col. (21).

Description of Zones, Elements of Switching, and Terminal Operations 1/

Form 1

Zone No.	Description	Track miles per zone		Element No.	Description
		Carrier owned	Industry owned		
(1)	(2)	(3)	(4)	(5)	(6)

1/ The purpose of this form is to furnish a description of the zones, elements of switching, and terminal operations at the terminal under study. Insert in column (1) the zone numbers. Describe the limits of the zones in column (2) and show whether tracks are "carrier owned" or "industry owned". Insert in column (3) the length in track miles of the "carrier owned" portion of each zone. Insert in column (4) the length in track miles, if any, of the "industry owned" portion of each zone. Insert in column (5) the element number and in column (6) the description of each element of switching.

A map of the terminal under study should accompany this descriptive data.

(Sample Copy)

Description of Zones, Elements of Switching, and Terminal Operations 1/

Form 1

(The data shown on this sample Form 1 illustrate a suggested procedure for a breakdown of terminal operations into zones and elements of switching. The references to tracks, zones, elements of switching, industries, and other terminal facilities are to be found on the map, designated as Easton Station of the East-West Railroad, which is included as a part of this form.)

Zone No.	Description	Track miles per zone: Carrier owned	Track miles per zone: Industry owned	Element No.	Description
(1)	(2)	(3)	(4)	(5)	(6)
1	Classification yard tracks. Includes West Yard tracks Nos. 1 to 6, inclusive, and in addition the west ladder track from its junction with the main line running track to the switch leading to coal dock track No. 11 and the east ladder track from its junction with the main line running track to switch leading to hold track No. 7	6.7	-	1	Classification switching in West Yard.
	Also includes main line running track between M.P. 100 and M.P. 101 + 5	1.5	-		
2	Scale track (yard track No. 6, West Yard)	0.01	-	2	Scale track switching (Scales - track No. 6)
3	Hold track (yard track No. 7, West Yard)	0.6	-	3	Hold track switching (West Yard track No. 7)
4	Repair tracks, Nos. 8 and 9, West Yard	0.4	-	4	Repair track switching (West Yard tracks Nos. 8 and 9)
5	Stores Department track No. 10, West Yard	0.2	-	5	Stores Department track switching (West Yard track No. 10)
6	Coal dock, ash pit, and fuel oil track No. 11, West Yard	0.1	-	6	Company coal dock, ash pit, and fuel oil track switching (West Yard track No. 11)
7	Enginehouse track No. 12 and enginehouse facilities, West Yard	0.3	-	7	Enginehouse track switching (Track No. 12 and at roundhouse)
8	Industry track. Includes track No. 17 serving Industries A and B and extends from main line running track switch opposite yard office to end of track No. 17 and track No. 18 from switch leading from track No. 17 to clearance point (carrier owned) and from the clearance point to the end of the track (industry owned), and track No. 19 from switch leading from track No. 17 to clearance point (carrier owned) and from clearance point to the end of the track (industry owned)	0.452	0.348	8	Industry track switching. Industries A and B including movements to and from West Yard.
9	Storage tracks Nos. 13 to 16, inclusive	0.6	-	9	Storage yard track switching (Tracks Nos. 13 to 16, inclusive)
10	Yard running track No. 20, extending from switch leading from main line running track at east end of West Yard to switch to track No. 21 leading to auto dock	0.2	-	10-A	Transfer switching. Northbound movements from West Yard to auto dock or freighthouse
				10-B	Transfer switching. Southbound movements from auto dock or freighthouse to West Yard
11	Team track No. 21 serving auto dock and extending from end of zone 10 to end of track	0.1	-	11	Team track switching. (Auto dock track No. 21)
12	Freighthouse tracks Nos. 22 to 25, inclusive, and freighthouse lead from end of zone 10 to ladder to freighthouse tracks	0.4	-	12	Freighthouse switching (Freighthouse tracks Nos. 22 to 25, inclusive)
13	Main line running track between switch leading from main line to ladder track at east end of West Yard, M.P. 101 + 5, to switch leading to East Yard, M.P. 103 + 5	2.0	-	13-A	Transfer switching. Eastbound movements from West Yard to East Yard, to North Industrial District, or to any intermediate point.
				13-B	Transfer switching. Westbound movements from East Yard, from North Industrial District, or from all other intermediate points to West Yard.
14	Icing track No. 26, serving icing platform, extends from main line running track switch at M.P. 101 + 5 to main line running track switch at M.P. 101 + 75	0.3	-	14	Icing track switching (Icing track No. 26)
15	Passenger service track. Includes tracks Nos. 27 to 29, inclusive, serving passenger coach yard	0.3	-	15	Passenger service track switching. All passenger work performed at passenger station and at passenger coach yard, tracks Nos. 27 to 29, inclusive.
16	Industry track. Includes track No. 30 serving Industry C and extends from main line running track switch just west of M.P. 103 + 5 to clearance point (carrier owned) and from clearance point to end of track (industry owned)	0.026	0.074	16	Industry track switching. Industry C.
17	Industry track. Includes track No. 50 serving Industries M, N, and O and extends from switch at M.P. 103 + 5 to end of track No. 50, and track No. 51 from switch leading from track No. 50 to clearance point (carrier owned) and from clearance point to end of track (industry owned); track No. 52 from switch leading from track No. 50 to clearance point (carrier owned) and from clearance point to end of track (industry owned); and track No. 53 from switch leading from track No. 50 to clearance point (carrier owned) and from clearance point to end of track (industry owned)	0.478	0.322	17	Industry track switching. Industries M, N, and O.
18	Classification yard track. Includes tracks Nos. 32 to 35, inclusive, in East Yard and yard running track No. 31 between main line running track switch at M.P. 103 + 5 and switch at ladder track at south end of East Yard	1.9	-	18	Classification switching in East Yard.
19	Team track. Includes tracks Nos. 36 to 39, inclusive	0.5	-	19	Team track switching. (Tracks Nos. 36 to 39, inclusive)
20	Yard running track No. 31 extending from end of zone 18 to South Avenue	0.4	-	20-A	Transfer switching. Southbound movements from East Yard to South Avenue.
				20-B	Transfer switching. Northbound movements from South Avenue to East Yard.
21	Interchange track. Includes tracks Nos. 41 and 42 extending from South Avenue to junction with North-South R.R.	0.6	-	21-A	Interchange track switching. Deliveries from East-West R.R. to North-South R.R. placed on interchange track No. 41
				21-B	Interchange track switching. Receipts from North-South R.R. to East-West R.R. pulled from interchange track No. 42.
22	Industry track. Includes track No. 40 serving Industries D, E, and F, and extends from switch leading from yard running track No. 31 at South Avenue to end of track (carrier owned)	0.4	-	22	Industry track switching. Industries D, E, and F on track No. 40.
23	Yard running track. Includes track No. 43 from end of zone 20 at South Avenue to switch leading to track No. 46 serving Industry I	1.0	-	23-A	Transfer switching. Eastbound movements from South Avenue to switch leading to track No. 46, serving Industry I, or to any intermediate point.
				23-B	Transfer switching. Westbound movements from switch leading to track No. 46, serving Industry I or from any intermediate point, to South Avenue.
24	Industry track. Includes track No. 44 serving Industry G and extending from switch leading from track No. 43 to clearance point (carrier owned) and from clearance point to end of track (industry owned); track No. 45, serving Industry H and extending from switch leading from track No. 43 to clearance point (carrier owned) and from clearance point to end of track (industry owned); and track No. 46 serving Industry I and extending from switch leading from track No. 43 to clearance point (carrier owned) and clearance point to end of track (industry owned)	0.078	0.922	24	Industry track switching. Industries G, H, and I located on tracks Nos. 44, 45, and 46, respectively.
25	Industry track. Includes track No. 43 from end of zone 23 to end of track, and track No. 47 serving Industry J and extending from switch leading from track No. 43 to clearance point (carrier owned) and from clearance point to end of track (industry owned); track No. 48 serving Industry K and extending from switch leading from track No. 43 to clearance point (carrier owned) and from clearance point to end of track (industry owned); and track No. 49 serving Industry L and extending from switch leading from track No. 43 to clearance point (carrier owned) and from clearance point to end of track (industry owned)	2.078	0.922	25	Industry track switching. From switch leading to Industry I east to the end of track No. 43, including tracks Nos. 47, 48, and 49, serving Industries J, K, and L, respectively.
				26	Helping road trains or other yard locomotives.
				27	Caboose switching. Includes changing of cabooses on road freight trains.

1/ The purpose of this form is to furnish a description of the zones, elements of switching, and terminal operations at the terminal under study. Insert in column (1) the zone numbers. Describe the limits of the zones in column (2) and show whether tracks are "carrier owned" or "industry owned". Insert in column (3) the length in track miles of the "carrier owned" portion of each zone. Insert in column (4) the length in track miles, if any, of the "industry owned" portion of each zone. Insert in column (5) the element number and in column (6) the description of each element of switching.

A map of the terminal under study should accompany this descriptive data.

(Sample Copy)

Form 1

Description of Zones, Elements of Switching, and Terminal Operations - Continued

Terminal Operations

The main line between the locations M.P. 100 + 5 and 101 + 5 is used as a running track for road freight and passenger trains and as a classification track. The main line between the locations M.P. 101 + 5 and M.P. 103 + 5 is used as a running track for road freight and passenger trains and for yard transfers. The regular trains arrive at and depart from the West Classification Yard upon the following schedules:

Train No.	Arrivals	Train No.	Departures	Train No.	Arrivals	Train No.	Departures
	Road Freight Trains				Road Passenger Trains		
25	6:30 A.M. (terminates)	26	11:50 P.M. (originates)	5	12:45 P.M.	5	12:50 P.M.
36	1:30 P.M.	36	2:30 P.M.	6	4:30 P.M.	6	4:33 P.M.
35	5:30 P.M.	35	5:45 P.M.				

Extra trains are occasionally operated through this yard and require a change of cabooses at West Yard.

Train No. 25 terminates at West Yard and the road locomotive is placed in the roundhouse during the day. This same road locomotive is used to handle train No. 26 out of West Yard. Trains Nos. 35 and 36 are operated through West Yard although it is the customary practice for train No. 36 to pull into one of the yard tracks and train No. 35 to stay on the main line running track. The road locomotive from train No. 36 goes to the coal dock track for fuel while the yard locomotive handles the cars to be set out and the cars to be placed in this train. No change of cabooses is made upon these two trains.

The regular passenger trains operate through this terminal. Occasionally cars are added or taken off such passenger trains by the yard locomotives, as the requirements of the passenger service may demand.

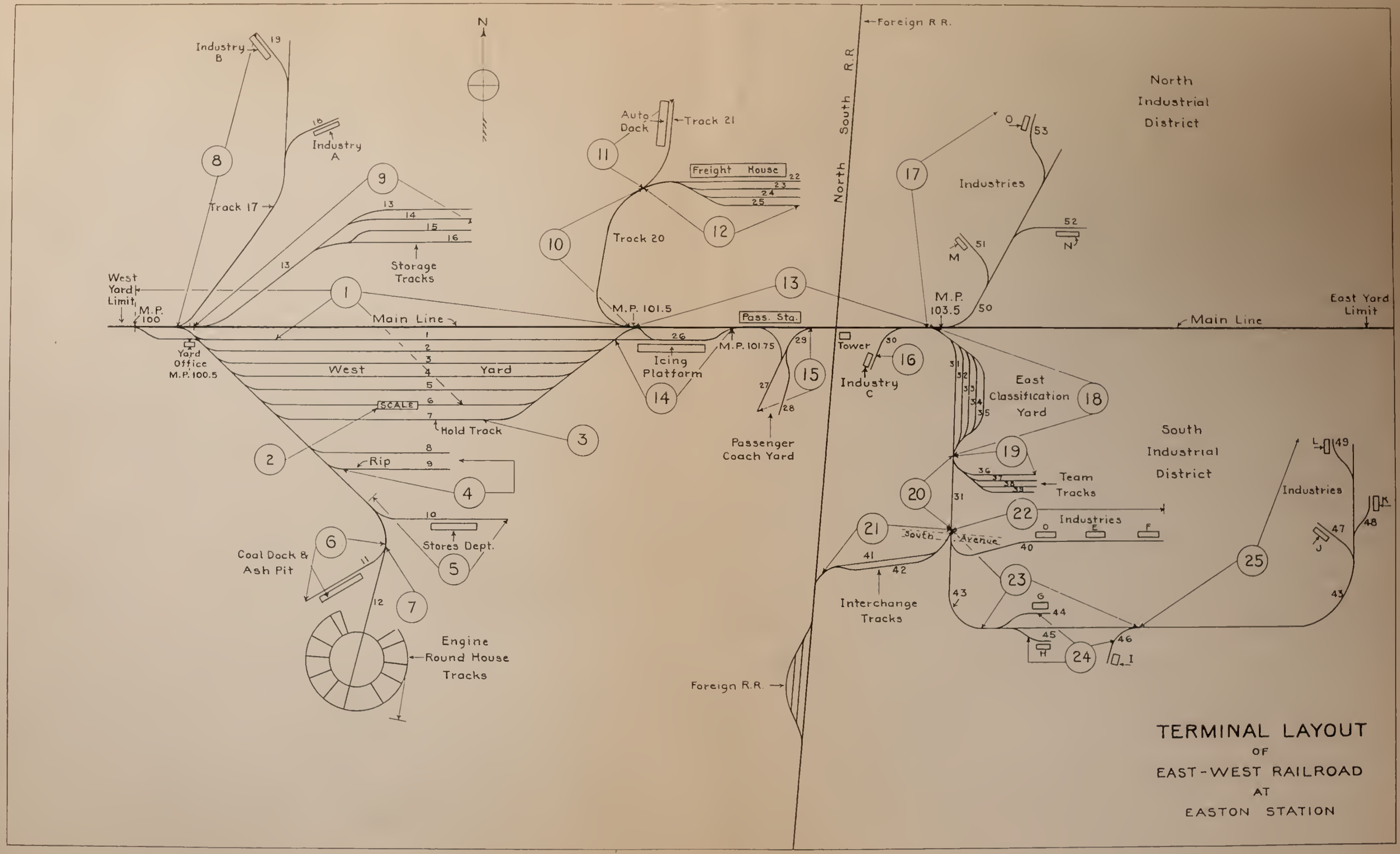
Normal yard operations consist of three yard locomotive assignments, working as follows:

Assignment	Hours of service
No. 1	7:00 A.M. - 3:00 P.M.
No. 2	8:00 A.M. - 4:00 P.M.
No. 3	4:00 P.M. - 12:00 M.N.

The first assignment classifies train No. 25 which brings into West Yard a majority of the industrial cars. This assignment makes up a transfer for the second assignment to move to the East Yard. This assignment spots and pulls cars from Industries A and B as soon as possible after it completes the classification of train No. 25. This assignment regularly switches the hold track, storage yard, coal dock, and stores department tracks. It also assists with the classification of cars received from train No. 36 and cars from the yard that are forwarded in train No. 36.

The second assignment handles cars in transfer service to the East Yard and to the North Industrial District. All cars for the latter district are spotted or pulled by this assignment. If there are industrial cars for Industry C, this assignment spots such cars as well as picks up the outbound cars from this industry. This assignment also does the passenger switching at the coach yard or at the passenger station whenever extra cars are added to passenger trains. Cars for the coach yard and for Industry C may be handled in a separate transfer or they may be handled in a transfer which is going to the East Yard. The latter condition more frequently prevails. This assignment handles all cars from train No. 25 to the interchange track and delivers them to the North-South Railroad. It picks up any cars for the East-West Railroad which may be at the interchange track at this same time and brings such cars to East Yard or West Yard, as the needs may require. This assignment handles the cars that require icing to the icing platform and normally handles all cars requiring weighing to and from the scale track.

The third assignment begins its tour of duty by making a transfer movement to the freighthouse. This transfer includes cars for the auto dock, which are spotted on arrival and any empties at the auto dock are pulled at the same time. This assignment then doubles the outbound merchandise cars together at the freighthouse for movement to West Yard. These merchandise cars are classified in West Yard, some moving out in train No. 35 and the remainder departing in train No. 26. This assignment next makes a transfer to East Yard where it picks up and classifies any cars which have been brought to East Yard by Engine 2. This assignment spots and pulls the cars for the team tracks by making this movement directly from East Yard. This assignment then picks up cars for the South Industrial District in East Yard and moves to South Avenue. At the latter point cars for Industries D to F are spotted at their respective locations on industry track No. 40. Cars for Industries G to K are then spotted. The loaded and empty cars are pulled from Industries L to D and are transferred either to East Classification Yard or to the West Classification Yard on the return trip. If any of the Industries D to L load cars in connection terminal switch service for the North-South Railroad, such cars are delivered to the interchange track by this assignment. This assignment stops at East Yard on its return trip to West Yard only when necessary to set out empty cars. In West Yard it classifies the cars which it brought in and makes up train No. 26. This assignment then takes to the freighthouse the inbound merchandise cars from train No. 35, together with any empty cars required for the next day's loading and spots the cars on the freighthouse tracks. If there are no cars available for movement at freighthouse, the crew returns to West Yard with the light locomotive and this completes the assignment.



TERMINAL LAYOUT
OF
EAST-WEST RAILROAD
AT
EASTON STATION

(Front of Form 2)

YARD CONDUCTOR'S WORK REPORT 1/

Form 2
_____ Railroad

Station _____ Engine No. _____ Yard _____
On Duty _____ M 2/ Off Duty _____ M 2/ Number of Brakemen _____ Conductor _____ Date _____

A. CLASSIFICATION 3/

Name of yard (1)	Time From (2)	Time To (3)	No. cars (loads and empties) (4)	(5)	(6)
	m	m			
	m	m			
	m	m			
	m	m			
	m	m			
	m	m			
	m	m			

B. TRANSFER SERVICE 4/

From (Show name of plant, yard, or interchange) (7)	Time (8)	To (Show name of yard, plant, or interchange) (9)	Time (10)	Cars handled (11)
	m		m	
	m		m	
	m		m	
	m		m	
	m		m	
	m		m	
	m		m	
	m		m	
	m		m	
	m		m	
	m		m	

C. INTERCHANGE TRACK SWITCHING

Location (12)	Time From (13)	Time To (14)	Cars handled Loads (15)	Cars handled Empties (16)
	m	m		
	m	m		
	m	m		
	m	m		
	m	m		

Name of industry, teamtrack, or freightbouse (17)	Time From (18)	Time To (19)	Cars handled To Loads (20)	To Empties (21)	From Loads (22)	From Empties (23)	Intraplant 5/ Loads (24)	Intraplant 5/ Empties (25)
D. INDUSTRY TRACK SWITCHING (Includes private industries, docks, wharves, elevators, and stock yards)								
	m	m						
	m	m						
	m	m						
	m	m						
	m	m						
	m	m						
	m	m						
	m	m						
	m	m						
	m	m						
	m	m						
	m	m						
	m	m						
	m	m						
E. TEAMTRACK SWITCHING								
	m	m						
	m	m						
	m	m						
	m	m						
	m	m						
F. FREIGHTHOUSE SWITCHING								
	m	m					xxx	xxx
	m	m					xxx	xxx
	m	m					xxx	xxx
	m	m					xxx	xxx
	m	m					xxx	xxx

(Back of Form 2)

C. SWITCHING - HOLD, WEIGHING, ICING, AND STORAGE YARD TRACKS

Location and description 6/ (26)	Time From (27)	Time To (28)	Cars handled 7/ From Load (29)	From Empty (30)	To Load (31)	To Empty (32)
	m	m				
	m	m				
	m	m				
	m	m				
	m	m				
	m	m				
	m	m				
	m	m				
	m	m				
	m	m				

H. SWITCHING - COMPANY COAL DOCKS, ASH PITS, AND FUEL OIL TRACKS

	m	m				
	m	m				
	m	m				
	m	m				
	m	m				
	m	m				
	m	m				
	m	m				
	m	m				

I. SWITCHING - SHOP, REPAIR, AND STORE DEPARTMENT TRACKS

	m	m				
	m	m				
	m	m				
	m	m				
	m	m				
	m	m				
	m	m				
	m	m				
	m	m				
	m	m				

J. SWITCHING - EXCLUSIVELY PASSENGER ZONES 8/

Location (33)	Time From (34)	Time To (35)
	m	m
	m	m
	m	m
	m	m
	m	m

K. WORK FOR MAINTENANCE OF WAY DEPARTMENT

	m	m
	m	m
	m	m
	m	m
	m	m

L. NONPRODUCTIVE TIME 9/

Item (36)	(37)	(38)
	m	m
	m	m
	m	m
	m	m
	m	m

M. OTHER SERVICES 10/

Item (39)	(40)	(41)
	m	m
	m	m
	m	m
	m	m
	m	m
	m	m
	m	m
	m	m
	m	m
	m	m

Footnotes for Form 2, Yard Conductor's Work Report

1/ This report is to be made by each yard conductor daily at the time the work is performed during the test period. Conductors should be very particular to show the correct time consumed in each class of service and the actual number of cars to which services are rendered, as called for under the various subheadings of classifications, transfer, etc. All of the time of the shift must be accounted for under one of the twelve sections or as "Other Services", section M. If the number of lines provided for each element of switching are insufficient, use additional cards. Note: See also General Instructions re count of cars, count of locomotive time, treatment of delays, and distribution of common time between assignments.

2/ Time on Duty indicates the time at which the crew reports for duty and their compensation starts. Time off Duty means the time at which the period of compensation ends or the expiration of the normal eight-hour period of duty.

3/ Where a separation is made in the nature of the classification work, between (a) make-up and break-up work, (b) reclassification work, and/or (c) movement from one part of a classification yard to another part of the same yard, use columns (4), (5), and (6) as needed, inserting appropriate designation in the column headings. Use separate line for each class of work. Where no such separation is made, leave columns (5) and (6) blank. Where count of cars classified is not used as supplementary check to count made from other sources, columns (4), (5), and (6) may remain blank. (See General Instructions for Form 2, item 1 (a), on reverse side).

4/ Transfer service includes the handling of cars direct from one yard to another yard; movements between yard and industrial districts, and to and from interchange points; also movements between yards and ice houses, scales, storage tracks, etc., when distance is sufficient to warrant. Where both freight and passenger cars are handled in the same transfer, indicate in column (11) the number of freight cars separately from the number of passenger cars, designated as (P). Movements of a "light" locomotive engaged in any of the above transfer services should be shown separately with the designation "light" appearing in column (11). The light movements made account exclusive passenger switching should be designated as "Light (Pass.)".

5/ Intraplant switching, as shown in columns (24) and (25), shall include only the switching of cars from one location at an industry or team track to another location at the same industry or team track, when such movement is covered by a revenue switching order.

6/ Indicate element of switching service performed, i.e., hold track switching, scale track switching, or ice house track switching. If yard contains more than one hold track zone, scale, or ice house, identify by name: Hold track - West yard; scales - East yard; icing - West yard.

7/ Give a single count to each car handled to the facility, loaded or empty, and a single count to each car handled from that facility, loaded or empty.

8/ Include under section J only that passenger switching work performed in zones devoted exclusively to passenger switching. Passenger switching such as transfer service performed in zones which are used in common in both freight and passenger switching should be reported under section A, B, or C, as appropriate. In such case, designate the number of passenger cars handled as (P).

9/ Nonproductive time is time treated as common to all elements of switching, such as waiting for engine, waiting for assignment to next work, cleaning fire, lunch, taking coal or water, and tie-up time. Do not include time consumed in handling nonrevenue traffic (company material). See sections H, I, and K.

10/ If any class of service is performed other than those specifically designated under sections A to L, show such service under section M, "Other services". When yard locomotives are used to help a road train or assist another yard locomotive, show the time consumed and the train number or yard locomotive number that was helped.

(NOTE: It is the intent that the Yard Conductor's Work Report, Form 2, be reproduced in a card form and issued to the yard conductors or engine riders. The size of the card and the number of spaces shown in each section may be varied in accordance with respondent's needs. The general instructions appearing on the reverse side of the sheet are for the use of the supervisors.)

GENERAL INSTRUCTIONS CONCERNING FORM 2, YARD CONDUCTOR'S WORK REPORT

1. Count of cars:

(a) Classification switching. Analysis of the classification operations should be made to determine whether the classification work received by the various classes of traffic differs substantially from that received by all cars classified. If no substantial variation exists, give one count to each car in trains or cuts entering the yard. On the other hand, where certain cars are found to receive regularly additional classification services over and above that received by the average car, give an additional count to all such cars. Those cars receiving an additional count should be charged with such additional count in distributing the cost of classification. See Form 4, lines 11 and 12, and Form 7, columns (3), (5), etc. The count of cars classified must be computed from train sheets, switch lists, etc. The yard conductor's counts of care classified appearing in the yard conductor's work report, Form 2, columns (4) to (6), can only be used at best as a supplementary check. It may be omitted where desired.

(b) Transfer switching. Give one count to each car (loaded or empty) handled in transfer service. (See (f), heroto). Cars which are picked up or dropped off in the course of a transfer and which traverse but a minor part of the tranefer zone may be omitted from the count of cars handled. In tracing the cars on Form 4, lines 9 to 12, inclusive, such cars should not be charged with the transfer service.

(c) Industrial, team-track, and freighthouse switching. Give one count to each car (loaded or empty) that is spotted. Also give one count to each car (loaded or empty) that is pulled. Do not give a oount to cars, the movement of which is merely incidental to the spotting or pulling of other cars. If a loaded car be placed by one locomotive on an industrial storage track because of the lack of unloading space and later be moved from that storage track to the point of unloading, the second locomotive should not make a count of thie car. Vice versa, if one locomotive moves an empty from the point of unloading to a storage track within an industry and a second locomotive moves it back to the classification yard, tho second locomotive only should make the count. (Note: The tracing of cars will eliminate any duplications in the car count which may be unavoidable, based on the engine rider's count. For instructions concerning the tracing of cars, see Form 4.)

(d) Intraplant switching. Give one count to each car (loaded or empty) shifted from one track to another track within the same industry and when such movement is covered by a revenue switching order.

(e) Switching, hold, weighing, icing, storage yard, company coal dock, ash pit and fuel oil, shop, repair, and store department tracks. Give one count to each car (loaded or empty) spotted at the facility and also one count to each car (loaded or empty) pulled from the facility.

(f) Passenger switching. Where passenger switching work is performed in zonee which are common to both freight and passenger work (i.e., classification or transfer zones), report such work in the appropriate eections of Form 2 provided for freight-train cars. The number of passenger cars so handled should be eeparately designated (P), in order to permit the computation of the equated car count (see Form 6). Omit count of passenger cars in those zones devoted exclusively to passenger work. See Form 2, section (J).

(g) Cars, the movement of which is incidental to the handling of other cars. Exclude from the count of cars those cars, the movement of which is only incidental to the spotting or pulling of other cars. For example: If eeveral cars must be moved from hold track, storage track, or industrial track for the purpose of spotting or pulling one particular car, only that car should be counted. The principle followed is that the count of care should be limited to those care upon which productive work is done.

2. Count of time:

(a) Classification switching. The count of time will start with the assignment of the locomotive to classeification switching, including the time, if any, running light to such assignment. The time shall stop upon the completion of the assignment and a second assignment of the locomotive to a subsequent element of switching.

(b) Transfer switching. Where deeired, the locomotive time and car count may be shown separately by directione. In the event the locomotive moves "light", such movement should be designated as "light".

(c) Industrial, team-track, and freighthouse switching. Where the tracks are in close proximity to the yard, the element of transfer switching may be eliminated and the count of time chargeable to industrial, team-track, and freighthouse switching may start with the assignment in the yard.

(d) Intraplant switching. When this element of switching is performed in connection with induetrial switching, the time will etart when locomotive is assigned to intraplant switching and cease when such work has been completed. Where locomotives are assigned wholly to the element of intraplant switching and run light to and from the industry, the time will etart when the crew goes on duty and will cease when the crew goes off duty. The time for intraplant switching should be segregated only when the cars are handled upon revenue switching orders, or where a eeparation of this class of switching is deeired.

(e) Nonproductive time. Include the time when not working on either revenue or nonrevenue (company material) traffic, such as waiting for locomotives, taking coal and watsr, lunoh periods, cleaning fires, tie-up time, awaiting orders, derailments, accidents, etc. Do not include in nonproductive time the locomotive time consumed in switching cars to and from company coal docks, fuel oil tracks and ash pits. The cost of handling nonrevenue traffic (company material) chargeable to the terminal under study is separately computed and distributed over the revenue traffic as provided for in Schedule G, and Summary Schedule, sheet 2, lines 12 and 27.

(f) Treatment of delays. If the delay be peculiar to a given element of switching, it should be charged to that element. For example: Delays incurred in industry-track switching because of waiting for plant gates to be opened, waiting for the loading of cars to be completed, derailments on industrial spur tracks, etc., should be charged to the elements of industry-track switching. Delays, such as meeting with road trains, waiting at interlocker plants and crossings, which are incurred by reason of operating conditions peculiar to the terminal under study, should be charged to those elements of switching in which they occur. On the other hand, delays such as engine failuree, accidents, etc., which have no relation to the operating characteristics of the zones should be treated as nonproductive time.

(g) Distribution of locomotive time between assignments. The time chargeable to any given element of switching should be based upon the elapsed period during which services of the locomotives are consumed in performing the given service. Where a locomotive returns to a given point after the completion of each assignment, the time should include the total elapsed time, etarting with the time of departure and ending with the time of return. Where a locomotive is engaged in a series of separate assignments, i.e., classification, transfer service, and industry track switching, and upon the completion of the first assignment (classification) begins immediately the second assignment (transfer service), the time for classification should start with the beginning of that assignment and end with the completion of that aseignment. The time for transfer service will start immediately upon the completion of the classification. Where certain assignments require substantial out-of-line movements, euch as occasional work performed in the outlying districts, the time should stop at that point in the return movement where the locomotive is diverted to perform another assignment.

YARD SWITCH LIST 1/

Yard Locomotive No. ______________________ Date ______________

Conductor or Rider ______________________________________

Shift: Start __________ M Stop __________ M

Car		Load or empty	From	To	Route	Classified (yard)
Initial (1)	Number (2)	(3)	(4)	(5)	(6)	(7)

(NOTE: It is the intent that the Yard Switch List, Form 3, be reproduced in a card form and issued to the yard conductors or engine riders. The size of the card may be varied in accordance with respondent's needs.)

FOOTNOTES FOR FORM 3

1/ The purpose of Form 3 (Yard Switch List) is to aid in the tracing of the cars handled during the test period (see Form 4 for individual car-handling record). The information to be shown on this switch list is supplementary to that shown in Form 2. This switch list should be filled out by the yard conductor or by the yard office. Great care must be taken in filling out these switch lists for the test period, in order that the information is accurate.

Insert in columns (1) and (2) the initial and number of each car handled (loaded or empty) during the shift. Insert in column (3) whether the car was loaded (L) or empty (E). Insert in column (4) the point from which the car was moved by the reporting locomotive. Insert in column (5) the point to which the car was moved by the reporting locomotive. Insert in column (6) the name of the route over which the car was handled when there is more than one route from the point indicated in column (4) to the point indicated in column (5). Leave column (7) blank where the reporting locomotive does no classification work, or where classification work was performed but the count of the cars classified was obtained from a separate source of information. This latter situation applies principally at large classification yards where a count of the cars classified is based on separate studies.

Where other available records permit an accurate tracing of the cars handled, the use of this switch list may be omitted in whole or in part. The other sources include station records, train lists, interchange reports, inventory of yard at the beginning and end of study period, demurrage records, weighing records, seal records, etc. The source of the information needed for the purpose of tracing the cars (see Form 4) should be planned in advance of the study.

Individual Car Handling Record 1/

Item A. Car initial and number _____

Item B. Indicate if "mileage" car 2/ _____ or "other than mileage" car _____

Item C. Class of switching service 3/ _____ No. _____

Item D. Point of loading or unloading 4/ _____

Line No.	Item (1)	Location (2)	Date (3)	Time (4)	Load or empty 5/ (5)
	Start of Switching Movements				
1	Arrival in road train			M	
2	Received in interchange			M	
3	Assignment of empty			M	
	End of Switching Movements				
4	Departure in road train			M	
5	Delivered in interchange ...			M	
6	Release of empty			M	
	Location at Start and End of Test Period 6/				
7	Beginning of test		xxx	xxx	
8	End of test		xxx	xxx	

Line No.	Item (6)	Prior to test period (7)	During test period (8)	Subsequent to test period (9)
		Zones Through Which Car Was Handled		
9	Zone Nos. loaded			
10	Zone Nos. empty			
		Elements of Switching Service Received		
11	Element Nos. loaded			
12	Element Nos. empty			

Line No.	Car miles 7/ (10)	Car days 8/ (11)	Per diem reclaims collected 9/ (12)	Demurrage collected 9/ (13)	Switching charges collected 9/ (14)	Net weight of load (pounds) 9/ (15)	Other 9/ _____ (16)
13							

14 Remarks: _____

(NOTE: It is the intent that the Individual Car Handling Record, Form 4, be reproduced in a card form. The size of the card may be varied in accordance with respondent's needs.)

Footnotes for Form 4

1/ The purpose of this form is to trace the movement of the cars under study. From this record there is accumulated the total cars handled by zones, the total elements of switching, the total car-miles, the total car-days, etc., for each class of switching. Use one sheet for each tour (cycle of services) received by each car. For the source of the data, see Yard Switch List, Form 3, train lists, interchange reports, inventory of yard at the beginning and at the end of the study period, demurrage records, weighing records, car seal records, etc.

Suggested procedure in filling out this form is as follows:

(a) Make up an individual sheet for each car which during the test period arrived in road trains, was received in interchange, or was reported in the yard inventory at the beginning of the study. A copy of Form 4 will thus be set up for every car handled in the terminal during the test period; at the same time that form is made up, fill out line 1, 2, or 7, as applicable. Where a car has been received in the terminal prior to the test period, fill out line 7 from the yard inventory and line 1 or 2 from an analysis of train lists or interchange records for period prior to the test period.

(b) Fill out line 4, 5, or 8, as applicable, from an analysis of train lists, interchange records, or yard inventory at the end of the test period. Where a car departs from the terminal subsequent to the test period, fill out line 8 from the yard inventory and line 4 or 5 from an analysis of train lists or interchange records for period subsequent to the test period.

(c) Insert point of loading or unloading (Item D) from analysis of demurrage records, yard switch lists, or other station records, etc.

(d) Insert in lines 9 to 12, column (8), a count of the zones through which the car was handled or a count of the elements of switching from an analysis of the yard switch lists (Form 2) or other records named above. The count of the elements of switching or the zones may either be made simultaneously from the original sources named or the count of one of the factors may first be made with the count of the remaining factor computed from the first, i.e., a knowledge of the elements of switching service received should indicate the zones through which the car was handled.

(e) Fill out data in line 3 - Assignment of empty. Where an empty arrivee in a road train and is immediately assigned to an industry without intermediate handling to and from a storage track, the entry in line 3 will be identical with the entry in line 1. Where the empty is assigned from the storage track, identify the storage track in column (2). Insert the date and time that the empty car is pulled from storage track in columns (3) and (4). Develop such data from yard switch list or other records.

(f) Fill out data in line 6 - Release of empty. Where a car after being made empty departs in a road train without intermediate handling to and from a storage track, the entry in line 6 will be identical with that in line 4. Where a car after being made empty is moved to a storage track and held for a future loading, identify the storage track in column (2) and show date and approximate time of placement on storage track in columns (3) and (4), respectively.

(g) Insert count of zones and elements of switching in lines 9 to 12, columns (7) and (9). The insertion of the data for either zones or elements may be made according to respondent's convenience. A count of the switching elements will provide the count for the zones, based on a knowledge of the breakdown of the terminal operations by zones and elements. Attention is directed to the fact that under certain circumstances cars may get a zone count but not a count of the corresponding element. This situation exists where a car is moved in a transfer cut through a classification yard and receives a zone count for such yard, but does not receive a count for the element of classification at such yard. The count of the zones and elements inserted in columns (7) and (9) should be those necessary to complete the tour (cycle of services) of the car's movement through the terminal for the class of switching service shown in Item C.

In the case of intertrain switching, intratrain switching, interchange switching, or intermediate switching the tour (cycle of services) may embrace a loaded movement only or an empty movement only. In the case of carrier terminal switching, connection terminal switching, interterminal or intraterminal switching, the tour (cycle of services) will include not only the loaded movement but also the empty movement chargeable to such loaded movement. The tour (cycle of services received by a car) will depend upon the class of switching under study. An illustration of the tour for classes of switching is shown below:

(1) Carrier terminal switching - outbound loads: The tour will start when the car is assigned for loading purposes; i.e., it will begin with the arrival of the empty car in road train, or the receipt of the empty car at interchange track, or the assignment of the empty car from storage track, or with the reassignment of the car within the terminal upon being made empty from its previous load and where such empty is not returned to storage track. The tour of such outbound loaded car will end with its departure in the road train.

Footnotes for Form 4 - Continued

(2) Carrier terminal switching - inbound loads: The tour will commence with the arrival of the loaded car in the road train. The tour will end upon the disposition of the car when made empty, i.e., it will end with the departure of the empty car in a road train, the delivery of the empty car to an interchange track, the placement of the empty car on a storage track, or the reassignment of the empty car for reloading in the same terminal if it is not returned to storage track.

(3) Connection terminal switching - outbound loads: Same as (1) above, except that the tour will end with the delivery of loaded car to an interchange track.

(4) Connection terminal switching - inbound loads: Same as (2) above, except that the tour will begin with the receipt of the loaded car at an interchange track.

(5) Interchange switching - loads or empties: The tour will begin with the arrival of the car in a road train and it will end with the delivery of the car to interchange track, or vice versa, it will begin with the receipt of the car at interchange track and end with its departure in road train.

(6) Intermediate switching - loads or empties: The tour will begin with the receipt of the car at interchange track and will end with the delivery of the car at interchange track.

(7) Intertrain and intratrain switching - loads or empties: The tour will begin with the receipt of the car from respondent's road train and end with the departure of the car in respondent's road train. Where no transfer between yards is involved, the tour will consist of classification only. Where a transfer between yards is required, the tour will include the classification work performed at each yard and the transfer between yards.

(8) Intraterminal switching - loads: The tour will start with the assignment of the empty car, i.e., with the arrival of the empty car in road train, the receipt of the empty car at the interchange track, the assignment of the empty car from storage track, or with the reassignment of the car within the terminal upon being made empty from its previous load and where it is not returned to storage tracks. The tour will end with the disposition of the empty car, i.e., it will end with the departure of the empty car in a road train, the delivery of the empty car to an interchange track, the placement of the car on the storage track, or the reassignment of such car in the terminal for reloading if it is not returned to storage track.

(9) Interterminal switching - outbound loads: Same as (3) above.

(10) Interterminal switching - inbound loads: Same as (4) above.

Where the assignment of an empty car begins and ends with the storage track, check should be made of the prior and subsequent movement of these cars and where it is found that such car had previously moved from road train to storage track or subsequently moved from storage track to road train, its tour should begin with its receipt in the road train and/or end with its departure in a road train. Otherwise the movement between storage track and road train will remain unaccounted for.

(h) Insert class of switching under Item C, based on the nature of switching service received as shown on this form. In addition to the classes of switching under study, set up two additional classes designated as follows: Movement of nonrevenue traffic to and from fuel and water stations, and movement of other nonrevenue traffic for use in terminal under study. For analysis of traffic to be included in each of these classes of switching, see Schedule G, footnote 1.

(i) Where the study covers the complete operation of a terminal the movement of every car should be traced on Form 4. Where the study does not cover the entire terminal, the count of cars by zones and elements must be complete for those zones and elements which are used in part or in whole by traffic under study. This is necessary to provide the complete count of cars which is divided into the aggregate zone or aggregate element expensee in obtaining the unit cost per car.

(j) Group the sheets of Form 4 by classes of switching: Total count of cars, count of cars handled through each zone, count of cars receiving each element of switching, car-miles, car-days, and such other data as are required. See Form 5 for recapitulation.

2/ Designate by check. Include in "mileage" cars those cars which are rented on a mileage basis. If rentals are paid on mileage operated in terminal service, insert the mileage payment of such cars in line 13, column (16).

3/ The class of switching should agree with the class of switching defined in the Summary Schedule, sheet 1, of the formula.

4/ Insert name of shipper where loaded or unloaded on industry track; otherwise insert name of team tracks, freighthouse, auto platform, etc.

5/ Indicate load as "L". Indicate empty as "E".

6/ Data to be based on yard inventory to be made at beginning and end of test period.

7/ Insert actual car-miles operated in the terminal. Compute as follows: Establish a table of the mileages for each zone in the terminal under study. Where data not otherwise available, determine as follows: For classification yard zones use one and one-half times the length of the longest tracks between the two ladder tracks. For transfer zones use the full length of the zone. For industry team tracks, freighthouse, etc., use distance to mid-point of zone. Accumulate from the mileage table the total miles for the zones shown on lines 9 and 10, columns (7), (8), and (9). Omit car-miles of cars on which per diem reclaims are made.

8/ Insert actual elapsed car-days computed from start of the tour (see line 1, 2, or 3, as applicable), to the completion of the tour (see line 4, 5, or 6, as applicable). The car-days on these cars, assignment of which begins and/or ends in the storage track and which are charged with an empty prior or subsequent movement to a road train, may be omitted as insignificant. See footnote 1, paragraph (g). Show car-days to the nearest one-half day. Omit count of car-days on private line cars, rentals for which are on a mileage basis; also omit count of car-days on cars on which per diem reclaims are made.

9/ Fill out only when pertinent to the study.

Recapitulation of Car-handling Records (Form 4) by Classes of Switching 1/

Form 5

Class of switching _____ No. _____

Line No.	Count of cars through zones 2/				Count of cars receiving each element of switching 3/				Other miscellaneous data			Line No.
	Zone No.	Count of cars (loaded or empty)			Element No.	Count of cars (loaded or empty)			Item	Source	Amount	
		During test period	Prior to and/or subsequent to test period	Total (columns 2 and 3)		During test period	Prior to and/or subsequent to test period	Total (columns 6 and 7)				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	
1									Count of cars - Loaded and unloaded	4/		1
2									Count of cars - "Mileage" cars	5/		2
3									Count of cars - "Other than mileage" cars	5/		3
4									Total count of cars	Lines 2 and 3		4
5									Car-miles - "Mileage" cars	Form 4, col. (10) 6/		5
6									Car-miles - "Other than mileage" cars	Form 4, col. (10) 6/		6
7									Car-days - "Other than mileage" cars	Form 4, col. (11)		7
8									Per diem reclaims collected	Form 4, col. (12)		8
9									Demurrage collected	Form 4, col. (13)		9
10									Switching charges collected	Form 4, col. (14)		10
11									Net weight of load - pounds (weighted average)	7/		11
12									Other (define) _____	Form 4, col. (16)		12
13									Other (define) _____	-		13
14												
15												
16												
17												
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Footnotes

1/ The purpose of this form is to provide a recapitulation of the information appearing on Form 4. Use one sheet of this form for each class of switching and a separate sheet for nonrevenue traffic (company fuel), and a separate sheet for other nonrevenue traffic. Also use a separate form for all passenger cars handled through zones which are used by the traffic under study. Such information is necessary for insertion in Form 6, column (6). If cars are traced in Form 4 which are not included in any of the classes of switching under study or in passenger switching, group all such remaining cars on a separate sheet entitled, in the upper right hand corner, "All other cars--Freight". As the aggregate count of cars by zones during the test period is carried forward to Form 6 for separation of the zone expenses between freight and passenger and also used in computing the cost per car by zones (Schedule B, lines 44-45), all car movements by zones from Form 4 must be accounted for. The grand total of cars receiving each element of switching during the test period is carried forward to Form 7, column (21) for the purpose of computing the locomotive minutes per car. For the above reasons, the count of cars during the test period must be 100 percent complete for the zones and the switching elements pertinent to the handling of the class of traffic under study.

2/ Insert in column (1) the zone number of each zone traversed by cars receiving the class of switching shown in the upper right hand corner of this sheet. Insert in column (2) the count of cars handled through each of these zones during the test period (see Form 4, column (8), lines 9 and 10). Insert in column (3) the count of cars handled through these zones prior to and/or subsequent to the test period (see Form 4, columns (7) and (9), lines 9 and 10).

3/ Insert in column (5) the numbers of the elements of switching received by the cars receiving the class of switching shown in the upper right hand corner of this sheet. Insert in column (6) the count of cars receiving each element of switching during the test period (see Form 4, column (8), lines 11 and 12). Insert in column (7) the number of cars received in each element of switching prior to and/or subsequent to the test period (see Form 4, columns (7) and (9), lines 11 and 12).

4/ Compute count of cars (loaded and unloaded) from analysis of Form 4. Give single count to each car loaded and single count to each car unloaded in the terminal. Intraterminal cars which receive both loading and unloading will receive two counts. Exclude from this count of cars traffic loaded or unloaded in "mileage" cars and traffic loaded or unloaded in cars, if any, upon which per diem reclaims are made.

5/ Compute count of cars ("mileage" and "other than mileage") from analysis of Form 4. (Note: The count separated between "mileage" and "other than mileage" provides the necessary count of cars.) For intertrain, intratrain, interchange, and intermediate switching the count may be based upon the total cars handled (loaded or empty). For carrier terminal switching, connection terminal switching, interterminal and intraterminal switching, the count should be based on the loaded cars handled. The basis for the count of cars will depend primarily on whether the rates or charges under study are based on the total cars handled (loaded or empty) or are based on the loaded cars only. The count of cars developed herein provides the basis for the computation of the cost per car in the formula.

6/ Compute car miles separately for "mileage" cars and for "other than mileage" cars from an analysis of Form 4, column (10).

7/ Insert when pertinent to study. Compute by dividing the total net load for all cars in the class of switching under study from Form 4, column (15), by the total count of cars from line 4, column (11), hereto.

Form 6

Recapitulation of Actual Car Count and Equated Car Count by Zones 1/

Line No.	Zone No.	Yard freight service (loaded or empty) 2/				Yard passenger service 3/				Road freight service 4/			Road passenger service 5/				Total equated car count (columns 2, 4, 7, 9, 10, 12, 14, and 16)	Ratio of yard freight equated cars to total equated cars (column 5 ÷ column 17)	Line No.
			Yard locomotives			Passenger cars		Yard locomotives			Road locomotives		Passenger cars		Yard locomotives				
		Freight train cars, actual count	Actual locomotive count	Equated car count	Total count (columns 2 and 4)	Actual car count	Equated car count	Actual locomotive count	Equated car count	Actual freight train car count	Actual count of locomotives	Equated car count	Actual car count	Equated car count	Actual locomotive count	Equated car count			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	
1																			1
2																			2
3																			3
4																			4
5																			5
6																			6
7																			7
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(See reverse side for footnotes)

Footnotes for Form 6

1/ The purpose of this form is to provide a recapitulation of the actual count and the equated count of cars and locomotives traversing each zone. The purpose of the equated car count is to provide a basis for the separation of the common zones between road and yard service and with a further separation of the yard portion between freight and passenger. The factors developed for this purpose are used in Schedule B, sheet 1.

Where joint facility operations are involved, see tenor of instructions under Introductory Remark No. 5. Where the study shows there are yard movements of non-study traffic made by carriers other than respondent and such traffic should be charged with its portion of the zone cost, insert the appropriate count for such movement in columns (10) and (11). Explain below. However, if the expenses chargeable to non-study traffic have already been excluded from the zone expenses, the car count should also be excluded. _____

_____

_____

_____

2/ Insert in column (2) the total count of freight train cars (loaded or empty) traversing each zone. Accumulate from Form 5, column (2), for each class of switching and "all other" freight train cars handled during test period. Thus the total should account for every freight train car (loaded or empty) traversing the zone during the test period. Insert in column (3) the actual count of yard freight locomotives traversing each zone based on an analysis of Form 2, Yard Conductor's Work Report. Where a locomotive is running light, count as freight or passenger according to the nature of the work responsible for the light movement. Insert in column (4) the equated car count obtained by multiplying column (3) by a factor reflecting the use that the average yard locomotive makes of the zone facilities relative to the use made by freight train cars. Where data not available, use factor of _____ .

3/ Insert in column (6) the actual car count for cars traversing each zone during test period (see Form 5 - Passenger Switching). Insert in column (7) the equated car count computed by multiplying column (6) by a factor refleoting relative use that the passenger car makes of the zone facilities compared to that made by a freight train car. Where data not available, use factor of _____ . Insert in column (8) the actual count of locomotives traversing each zone based on analysis of Form 2, Yard Conductor's Work Report. Where a locomotive is running light, count as freight or passenger according to the nature of the work responsible for the light movement. Insert in column (9) the equated car count obtained by multiplying column (8) by the same factor used in computing column (4). See footnote 2.

4/ Insert in column (10) the actual count of freight train cars, loaded or empty, traversing each zone. Compute from analysis of wheel reports for trains traversing each zone or special records maintained for the duration of the test period. Insert in column (11) the actual count of road locomotives traversing the zone. Insert in column (12) an equated car count computed by multiplying column (11) by a factor reflecting the use that the road freight locomotives make of the zone facilities relative to the use made by freight train cars. If data not available, use factor of _____ . See footnote 1, paragraph 2.

5/ Insert in column (13) the actual count of passenger cars traversing each zone in passenger train service. Compute from passenger wheel reports for trains traversing the zone. Insert in column (14) equated car count computed by multiplying column (13) by a factor reflecting the use that the passenger train cars make of the zone facilities relative to the use made by a freight train car. If data not available use _____ factor. Insert in column (15) the actual count of road passenger locomotives computed from analysis of passenger wheel reports for test period. Insert in column (16) the equated car count computed by multiplying column (15) by a factor reflecting the use that the road passenger locomotives make of the zone facilities relative to that use made by freight train cars. If data not available, use _____ factor.

Form 7

Recapitulation of Car Count by Elements of Switching 1/

Date

(Use separate sheet for each day)

Locomotive No. _____
Conductor or rider _____
Shift: Start _____
Stop _____

Line No.	Elements of switching pertinent to study - No. (1)	No. _____ M M Locomotive minutes (2)	Cars handled (3)	No. _____ M M Locomotive minutes (4)	Cars handled (5)	No. _____ M M Locomotive minutes (6)	Cars handled (7)	No. _____ M M Locomotive minutes (8)	Cars handled (9)	No. _____ M M Locomotive minutes (10)	Cars handled (11)	No. _____ M M Locomotive minutes (12)	Cars handled (13)	No. _____ M M Locomotive minutes (14)	Cars handled (15)	No. _____ M M Locomotive minutes (16)	Cars handled (17)	Daily summary: Total locomotive minutes (18)	Daily summary: Cars handled (19)	Final summary for test period: Total locomotive minutes (20)	Final summary for test period: Total cars handled (21)	Final summary for test period: Locomotive minutes per car (col. 20 ÷ col. 21) (22)	Line No.
1																							1
2																							2
3																							3
4																							4
5																							5
6																							6
7																							7
8																							8
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39																							39
40																							40
	Item																						
41	Subtotal (lines 1 to 40)		xxx		xxx		xxx		xxx		xxx		xxx		xxx		xxx		xxx		xxx	xxx	41
42	Other productive minutes 2/		xxx		xxx		xxx		xxx		xxx		xxx		xxx		xxx		xxx		xxx	xxx	42
43	Total productive minutes (lines 41-42) ..		xxx		xxx		xxx		xxx		xxx		xxx		xxx		xxx		xxx		xxx	xxx	43
44	Nonproductive locomotive minutes 3/		xxx		xxx		xxx		xxx		xxx		xxx		xxx		xxx		xxx				44
45	Total minutes (lines 43-44)		xxx		xxx		xxx														xxx	xxx	45
46	Ratio productive minutes to total (line 43 ÷ line 45)	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx		xxx	xxx	46

(See reverse side for footnotes)

Footnotes for Form 7

1/ The purpose of this form is to accumulate daily the count of locomotive minutes by elements of switching, as developed from the Yard Conductor's Work Report, Form 2. Carry forward to columns (2), (4), (6), etc., lines 1 to 40 and 42, the locomotive minutes consumed by each locomotive shift in each of the elements of switching identified in column (1). If there are more than 8 shifts, use additional sheets of this form. The total minutes shown for each locomotive shown on line 45 should be reconciled with the total elapsed time for each locomotive during each shift. Accumulate the total daily count of locomotive minutes in column (18). Leave columns (20)-(22) blank on daily sheets. Use a separate sheet of this form to accumulate the grand total locomotive minutes for the entire test period, filling out columns (20)-(22) only. Where the cars handled during the test period are individually traced, the count of cars handled by individual locomotive shifts shown in columns (3), (5), (7), etc., may be omitted. Insert in column (21) of the final summary sheet the count of cars handled (loaded or empty) by elements of switching computed from a summary of all the sheets of Form 5, column (6). Such count of cars by elements of switching should embrace all cars receiving such element of switching during the test period including the freight-train cars under study, all other freight-train cars, and passenger-train cars. Include both revenue and nonrevenue cars.

If the cars are not individually traced, the number of cars handled for each element of switching should be developed for each locomotive shift. Fill out columns (3), (5), (7), etc., based upon analysis of Yard Conductor's Work Report, Form 2; Yard Switch List, Form 3; Train Lists; Interchange Reports; Yard Inventory; Demurrage Records; Weighing Records; Seal Records, etc. The Yard Conductor's Work Report, Form 2, can seldom be used as the exclusive means of a count of the cars, particularly in classification work. In the latter element of switching, the duplication that would result in the use of the Yard Conductor's Work Report can only be eliminated by an independent count of the cars classified giving in most cases a single count to each car arriving in the yard, irrespective of the number of times it is taken hold of by the locomotive (see general instructions for Form 2, Yard Conductor's Work Report, item 1(a).

2/ Include other productive time consumed in elements of switching not pertinent (common to) the handling of the traffic under study. For example, if the locomotives listed on this form spend part of their time in passenger switching, switching industrial areas not under study, switching rip tracks, and maintenance of way switching, such time should be included on line 42. However, elements of switching which are common to both the traffic under study and the traffic not under study should be included in lines 1 to 40. These latter include not only classification, transfer movements, interchange track switching, etc., but also include switching of nonrevenue traffic to and from company fuel and water stations and the switching of other nonrevenue traffic destined to the terminal under study.

3/ Include in this item the nonproductive time accumulated from Yard Conductor's Work Report, Form 2, Section L. For items included in nonproductive time, see Yard Conductor's Work Report, Form 2, footnote 9.

Computation of the Yard Portion (Freight) of the Expenses Chargeable to the Operation of Interlocker Towers, Drawbridges, and Street Crossing Protection 1/

Form 8

Name of facility _____

Location of facility _____

Line No.	Date (1)	Shift or trick		Number of times the facility is used by yard cuts, yard switch locomotives, road trains, or road locomotives			Ratio yard freight movements to total (column 4 ÷ column 6) (7)	Line No.
		From (2)	To (3)	Yard freight (4)	All other (5)	Total (columns 4 and 5) (6)		
1							xxx	1
2							xxx	2
3							xxx	3
4							xxx	4
5							xxx	5
6							xxx	6
7							xxx	7
8							xxx	8
9							xxx	9
10							xxx	10
11							xxx	11
12							xxx	12
13							xxx	13
14							xxx	14
15	Total							15

1/ The purpose of this form is to develop factors reflecting the relative use which the yard switching (freight portion) makes of interlocker towers, drawbridges, or street crossing protective services. The relative use is measured in terms of the number of movements through the facility.

Insert in column (1) the date. Insert in columns (2) and (3) the hours covered by each shift. Insert in column (4) the yard freight movements operating through the facility. Give one count to each cut of cars with locomotive and one count to each light locomotive. Where two or more locomotives are coupled and running light, give one count to such movement. Insert in column (5) a count of all movements other than yard freight. Compute on same basis as indicated for column (4). Compute ratio in column (7) on the basis of the count of movements in columns (4) and (6) for the total period.

The count of movements should be made by the employee or attendant in charge of facilities. Where desired, Form 8 may be used both for accumulating the data at the location of the facility as well as for summary purposes. In such case, the employee should insert the required count in columns (4) and (5) in the form of tally marks. Such tally marks may be totalled on the same sheet either at the end of the day or at the end of the test period.

(NOTE: It is the intent that Form 8 shall be reproduced in a card form. The size of the card may be varied in accordance with respondent's needs.)